This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

**Usage guidelines**

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

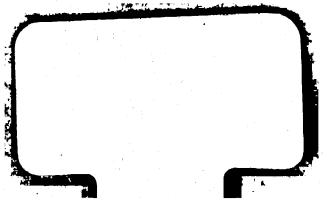
+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

**About Google Book Search**

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

NYPL RESEARCH LIBRARIES
3 3433 08181283 0

Digitized by Google


Digitized by Google

Montana
Agricultural
T-1WL

Digitized by Google

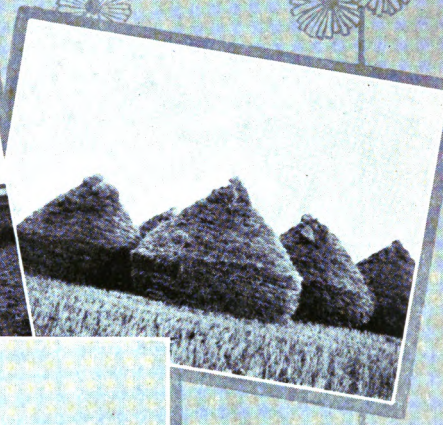
Digitized by Google

Digitized by Google

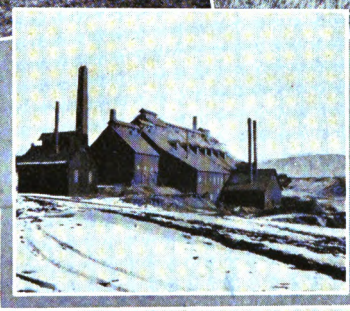
Digitized by Google

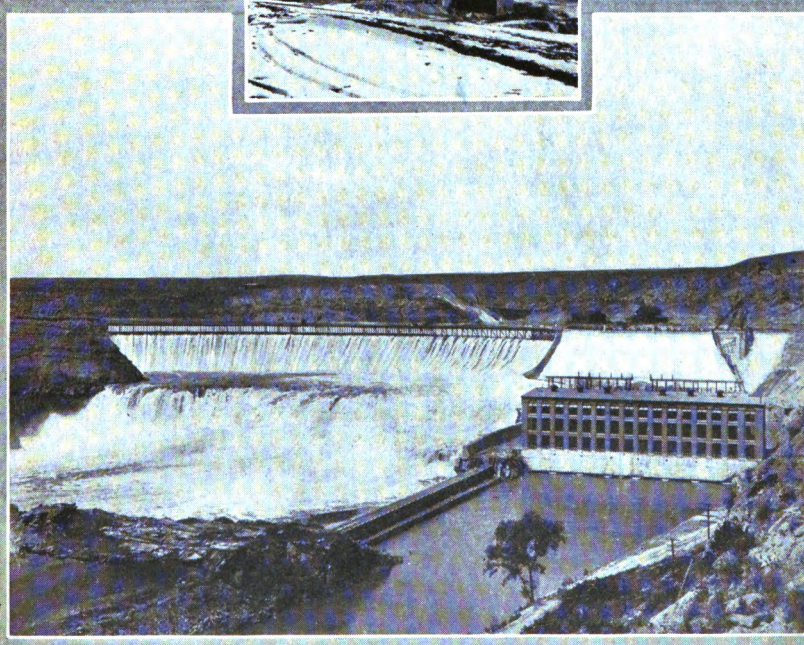
THE NEW YORK PUBLIC LIBRARY
ASTOR, LENOX TILDEN FOUNDATIONS
not Circ
R.R.

# MONTANA



19 17





Digitized by Google

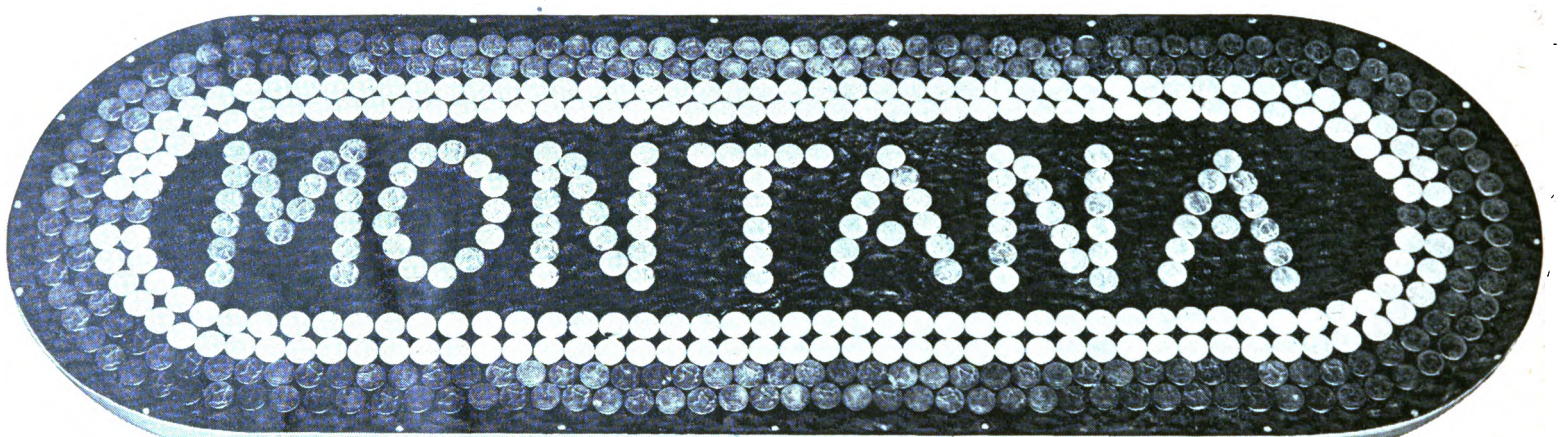
Digitized by Google

THE NEW
PUBLIC
AND
TILDEN

IWL
(Montana

Digitized by Google

# Medals Won by Montana Farmers at Panama-Pacific Exposition




AT THE Panama-Pacific International Exposition at San Francisco, Montana farmers were awarded more gold, silver and bronze medals and received more honorable mentions than were given agricultural exhibitors of any other state or foreign country. Montana was also awarded the grand prize in cereals and the grand prize in apples, the highest competitive awards in the agricultural and horticultural divisions. At the Panama-California Exposition at San Diego, Montana won the grand prize in agriculture. The above is a photograph of the medals awarded by the exposition at San Francisco. It shows nine gold medals of honor, awarded the state, 73 gold medals, 236 silver medals and 195 bronze medals awarded agricultural exhibitors from Montana.

Digitized by Google

Resources and Opportunities of Montana

1917 Edition

# "The Land of Opportunity"

By the Department of Agriculture and Publicity

Chas. D. Greenfield, Commissioner

This Publication is Issued and Circulated by Authority of the State of Montana

Helena, Montana

1917

Independent Publishing Company
Helena, Montana

Digitized by Google

841126

# FOREWORD

ISSUED by the authority of the State of Montana, "Montana-1917" seeks to give homeseekers, investors, young people who are looking for a new field, those who are seeking a place where they can start life anew, reliable and accurate information of the opportunities which are offered them in the Treasure State.

The third largest state in the Union, with a population of less than one million, with untold undeveloped mineral and agricultural wealth, something about how this wealth is being developed, and the opportunities offered for further development are told in "Montana-1917." The proofs of growth and development are taken largely from official publications of the United States government, and may be depended on as plain, unbiased and unvarnished statements of facts.

The endeavor has been in this publication to give the information about the state and counties which homeseekers and investors desire to know. To accomplish this it has not been possible to go into great detail. The endeavor has been to tell something of the agricultural, mining, hydro-electric, coal and gas and oil, livestock, dairying, horticultural, transportation, mercantile and other industries of Montana; to give facts as to climate and educational facilities. In short, to truthfully picture in words not only Montana as a whole but its sub-divisions. To tell how Montana is growing, what it is and what it offers today. On these statements the homeseeker and investor may judge whether the showing is such as to justify him in throwing his lot in with a state and with a people where his welcome will be of the whole-hearted, western type.

This is the seventh edition of "Montana." That the previous issues have justified their publication there is evidence in that they are regarded as a standard of authority on the state. The demand for each edition comes not only from all sections of the United States but from lands across the waters.

The hope is that this latest edition of "Montana" will prove as valuable and useful as have those which have preceeded it.

CHAS. D. GREENFIELD, Commissioner

Digitized by Google

# Montana—Land of Opportunity

## With Less Than a Million People Living Within Its Borders, the State Added to the Wealth of the Nation in 1916, $342,000,000

REAT AS is the area of Montana, in comparison with other states of the union, its wealth in natural resources far exceeds in proportion the number of square miles within its borders. With an area of 147,182 square miles, a population of 750,000, in the year 1916 the value of its mineral, farm, livestock, wool, coal and lumber products reached a total of $342,000,000. And Montana is only in its infancy. Millions of tillable acres have not been touched by the plow; there are mountains of riches in gold, in silver, in copper, in lead, which have never been touched by the pick of the prospector; there are coal deposits which are yet hid from the eyes of man; gas and oil deposits which await the magic touch of capital and labor to pour forth their streams of wealth; mountain streams which need but to be harnessed to furnish the power to operate thousands of miles of railroads, to drive the wheels of factories, to light new towns, to lift the water from the rivers to the dry lands. In no section of the state has development reached its maximum. Numerous as has been the number of cities and towns which have come into being in the past five years, every one of which has shown steady growth, their number will be greatly exceeded in the coming five years, due to the development of resources and the settlement of the state. In the new towns and in those which are already in being, the merchant, the banker, the professional man, the craftsman will find opportunities which are not excelled anywhere in the land.

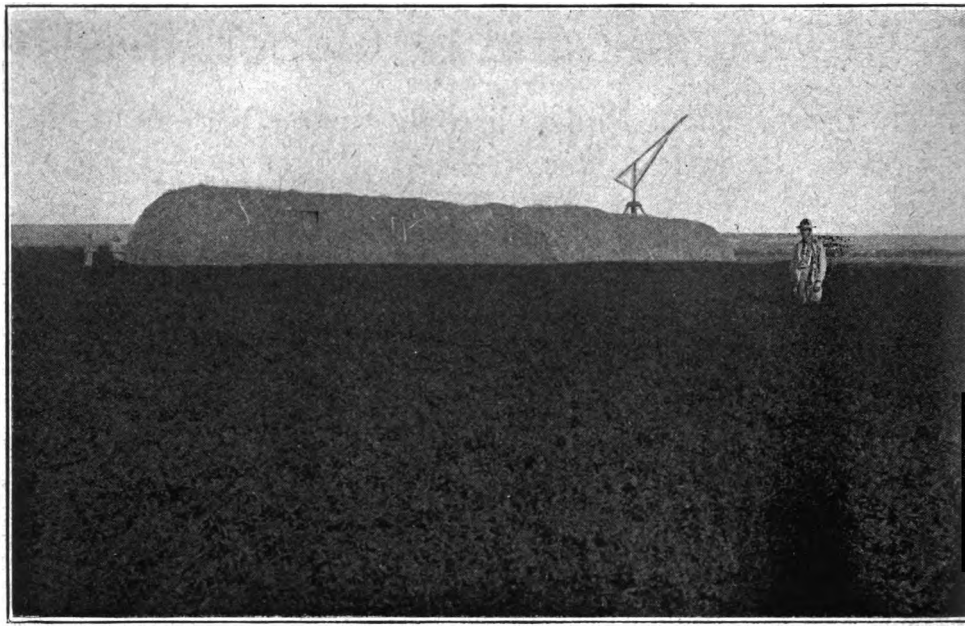
There are forty-three counties in Montana and the assessed valuation of property for purposes of taxation is in round numbers $586,000,000, assessments as a rule being made on a basis of forty per cent of the actual valuation. Contrary to the common belief held in the east and the middle west, forty-one of the forty-three counties of Montana are classed as agricultural, but two, Silver Bow and Jefferson being noted more for their mineral production than for their farm output.

There is no state which offers superior and few equal opportunities to the investor and homemaker as await the taking in Montana. When it is remembered that this state has an average length from east to west of 535 miles, and the average width from north to south of 275 miles, embracing an area of 147,182 square miles and that in this immense territory the population is only about three quarters of a million, one can readily see that it is virtually a virgin territory so far as opportunity is concerned. Montana embraces a greater area than all of the New England states, New York, New Jersey, Delaware and Maryland combined.

### Great Area Agricultural Land.

In recent years the belief held by many that Montana was wholly a mountainous state, and that its area of agricultural land was small, has been dissipated to a large extent. In the past five years more than 30,000,000 acres of public lands and lands once included in Indian reservations have been taken up and settled upon by home makers. What this settlement has meant to the food production of the countr-

Digitized by Google



Montana Alfalfa Hay in Stack 1917

may be judged by the reports of the agricultural department at Washington. The wheat production has jumped 25,000,000 bushels, oats 20,000,000 bushels, corn 1,000,000, potatoes 3,000,000, flax 3,000,000 and hay 1,000,000 tons.

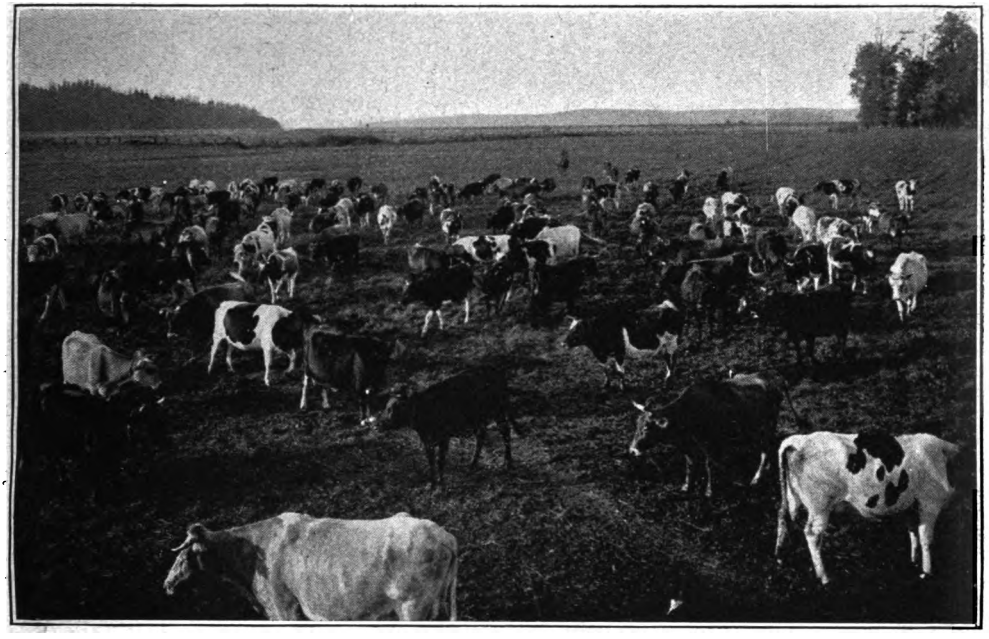
In these five years the productivity of Montana soil as compared with that of other states has been amply demonstrated. Going again to an official source, the United States department of agriculture, the report of that department under date of December, 1916, shows the average per acre production in bushels in 1916 of the twelve principal agricultural states of the union, the average for the entire United States, and the average for the same period in Montana as follows:

| | Wheat | Oats | Barley | Flax | Potatoes | Rye | Corn |
|---|---|---|---|---|---|---|---|
| Ohio | 13.5 | 28.0 | 27.8 | ..... | 45.0 | 14.5 | 31.5 |
| Indiana | 12.0 | 30.0 | 27.0 | ..... | 44.0 | 14.0 | 34.0 |
| Illinois | 11.0 | 38.5 | 32.0 | ..... | 58.0 | 15.5 | 29.5 |
| Michigan | 17.0 | 30.0 | 24.5 | ..... | 48.0 | 14.3 | 27.5 |
| Wisconsin | 17.6 | 37.0 | 30.0 | 12.0 | 47.0 | 16.2 | 36.0 |
| Minnesota | 7.4 | 26.5 | 19.0 | 8.5 | 60.0 | 15.0 | 33.5 |
| Iowa | 15.8 | 37.0 | 29.5 | 10.0 | 42.0 | 17.0 | 36.5 |
| Missouri | 8.5 | 25.0 | 20.0 | 7.0 | 60.0 | 11.0 | 19.5 |
| N. Dakota | 5.5 | 21.5 | 15.5 | 10.3 | 93.0 | 13.3 | 26.5 |
| S. Dakota | 6.8 | 30.5 | 22.7 | 9.7 | 66.0 | 18.0 | 28.5 |
| Nebraska | 19.4 | 35.5 | 28.0 | 8.0 | 73.0 | 16.0 | 26.0 |
| Kansas | 12.0 | 23.5 | 16.0 | 5.8 | 71.0 | 14.5 | 10.0 |
| U. S. | 12.1 | 30.1 | 23.6 | 9.6 | 80.4 | 15.3 | 24.4 |
| **MONTANA** | **19.3** | **38.0** | **28.0** | **9.5** | **125.0** | **20.5** | **25.0** |

**Acre Value to Farmers.**

Even more interesting than this comparison of yields is another compilation of the United States department of agriculture which shows the comparative value to the farmer of an acre of wheat, of oats, of hay and potatoes in Montana and other agricultural states for 1916:

Digitized by Google



Montana Has Many Herds of Good Dairy Cattle

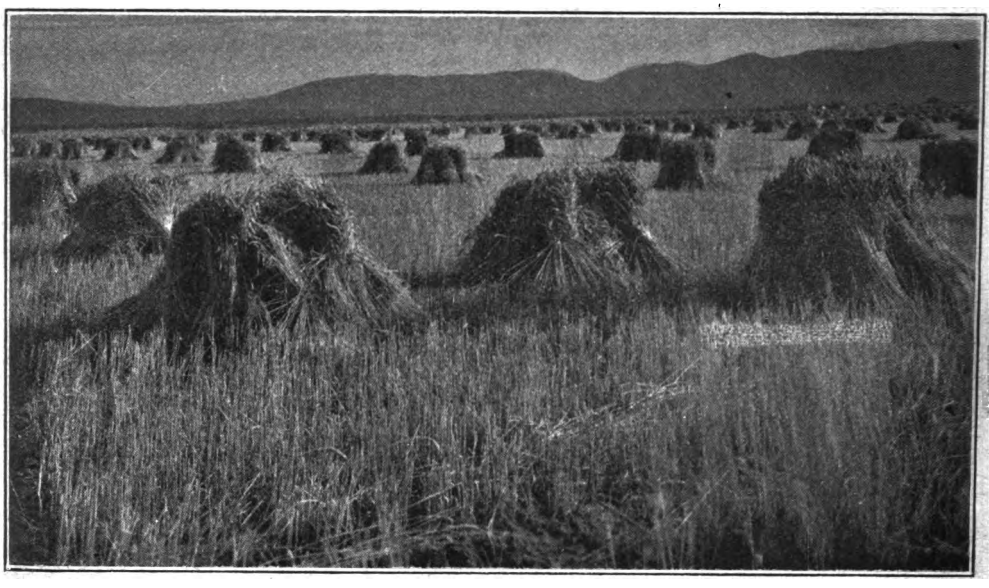
| | Hay | Potatoes | Wheat | Oats |
|---|---|---|---|---|
| Illinois | $16.38 | $103.82 | $18.15 | $19.64 |
| Indiana | 15.70 | 77.88 | 20.28 | 15.30 |
| Iowa | 14.49 | 73.50 | 24.65 | 17.76 |
| Kansas | 11.78 | 117.15 | 19.68 | 12.92 |
| Michigan | 15.90 | 76.80 | 28.39 | 15.90 |
| Minnesota | 12.95 | 78.00 | 11.99 | 13.87 |
| Missouri | 12.09 | 108.00 | 14.02 | 13.25 |
| Nebraska | 15.62 | 109.50 | 31.04 | 16.68 |
| North Dakota | 10.20 | 106.95 | 8.36 | 9.46 |
| South Dakota | 10.26 | 90.42 | 10.20 | 14.03 |
| Ohio | 16.64 | 81.90 | 22.82 | 14.84 |
| United States | 18.36 | 117.48 | 19.43 | 15.80 |
| **MONTANA** | **18.70** | **150.00** | **31.07** | **17.86** |

Is it any wonder, in view of the proved phenomenal richness of Montana soils, that in recent years one-third of all the homesteads filed upon in the United States have been in Montana? In the eight years including 1916, 28,000,000 acres of public land in Montana have been filed upon, the number of filings aggregating 126,000. But on the last day of June, 1916, there still remained in Montana open to entry more than 16,000,000 acres of public land. More than half of this it is estimated is suited to farming.

### Free Lands Going Fast.

But the opportunity to get a free homestead in Montana is not going to last much longer. Since the first of the year thousands of entries have been made, and tens of thousands of acres of public land have been filed upon. The time is rapidly approaching when the man who wants land in Montana for growing crops will have to buy it. Even today in some sections of the state this is the condition. But this does not mean that the opportunity to get farm land cheap has disappeared. Taking into account the productivity of the soil, the good markets and

Digitized by Google



An Oat Crop in Eastern Montana

other conditions, farm lands in Montana are selling today at much less than in other states. When one can buy winter wheat lands which will produce from 25 to 40 bushels an acre at from $20 to $40 an acre, and irrigated lands at from $40 to $75 an acre, it cannot be said that there is lacking the opportunity for the homemaker to make a start with a comparatively small outlay.

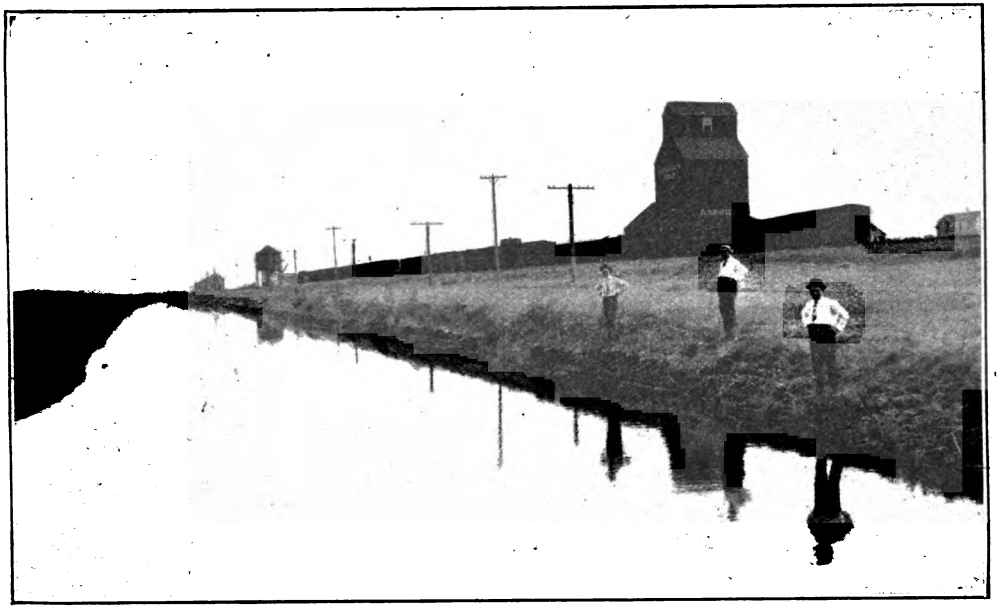
### From Range to Farm.

Ten years ago when the homesteader began to come into Montana in large numbers, taking up the quarter sections and fencing them, the cattle industry as it had been conducted for more than a quarter of a century, was looked upon as doomed. As the years have passed and the homesteader has come in larger and larger numbers, the prediction has been fulfilled in large part. While in different parts of Montana there are still cattle on the range, yet the number as compared with the thousands which ranged the public lands ten years ago is comparatively small. But the disappearance of the range cattle has not reduced the annual output of beef cattle from Montana—it has merely brought about a change in the system of cattle growing. Instead of the big cattleman, running thousands of head, and shipping to the eastern market by the trainload, beef cattle are now produced in Montana by the small ranchman and farmer. He markets from half a dozen to a dozen animals a year, making up a train load with his neighbors. Last year Montana sent to market 227,828 beef animals and 3,000,000 sheep, while the value of the horses shipped out of the state aggregated $10,000,000. Breeding a better class of beef animals has been going on for ten years and today there are in Montana herds of pure bred Herefords, Shorthorns and Angus, than which there are no better in the United States.

### Dairy Industry Grows.

The development of the farming industry has naturally led to a greater diversity of the operations, and one result has been an almost phenomenal growth in the dairy industry and increase in dairy cows. Co-operative creameries have been

Digitized by Google



Canal in the Milk River Project

established all over the state, the farmers have brought in and raised the best breeds of dairy cows, with the result that from virtually nothing the dairy industry in ten years has grown to the point where there are now sixty-one creameries in the state, the butter production last year being 2,200,000 pounds while the city and town milk supplies aggregate $8,000,000. To produce these products there were listed 130,000 dairy cows valued at $17,775,000. These figures, compared with those in the same industry in other states are not large. But when it is remembered that the first creamery was started in Montana only about ten years ago, that except for a cow or two on a farm for home use fifteen years ago dairy stock was not considered worth feeding, the progress has been satisfactory.

## Diversity of Conditions.

Possibly no state offers a greater diversity of agricultural opportunity than Montana. The man who believes that winter wheat production offers the greatest incentive may select a location in the rolling prairie country in northeastern Montana, in the eastern section of the state or in western Montana. Then he will find farmers growing the best grade of hard wheat and producing from 25 to 40 bushels an acre on virgin soil. He may prefer the table lands nearer the mountains for producing the same crop, and he will find them in central Montana and in the southern counties of the state, where the production per acre is as great as it is on the prairie lands.

If the farmer prefers to engage in diversified farming, and under conditions where he will not have to depend upon the rainfall for water for his crops, he has the opportunity to purchase in the valleys of the state at from $40 to $100 an acre an irrigated and improved farm which will grow any crops produced in the temperate zone, without the use of commercial fertilizers. Or he may settle under one of the several government reclamation projects, or purchase land at a reasonable price under a Carey land act project. If he wants to grow corn com-

Digitized by Google

Boxing the Apple Crop in a Bitter Root Orchard

mercially he may do so in eastern Montana. If he desires to engage in producing apples and other fruits on a commercial scale, western and northwestern Montana have proved within the past fifteen years that fruit growing, especially the production of apples and the finest cherries offered on eastern markets, is a profitable business.

Should he desire to engage in the production of beef animals rather than in growing cereals or fruits, he can secure land producing hay crops adjacent to lands suitable only for grazing. On these latter he can run his cattle nine months in the year and in the other three feed them on the alfalfa and other nutritious hays grown on the home ranch.

Should he have a desire to engage in dairying he can secure a farm within a reasonable distance of a co-operative creamery in a section where the snowfall is comparatively light, and where experience has demonstrated that the business can be carried on successfully.

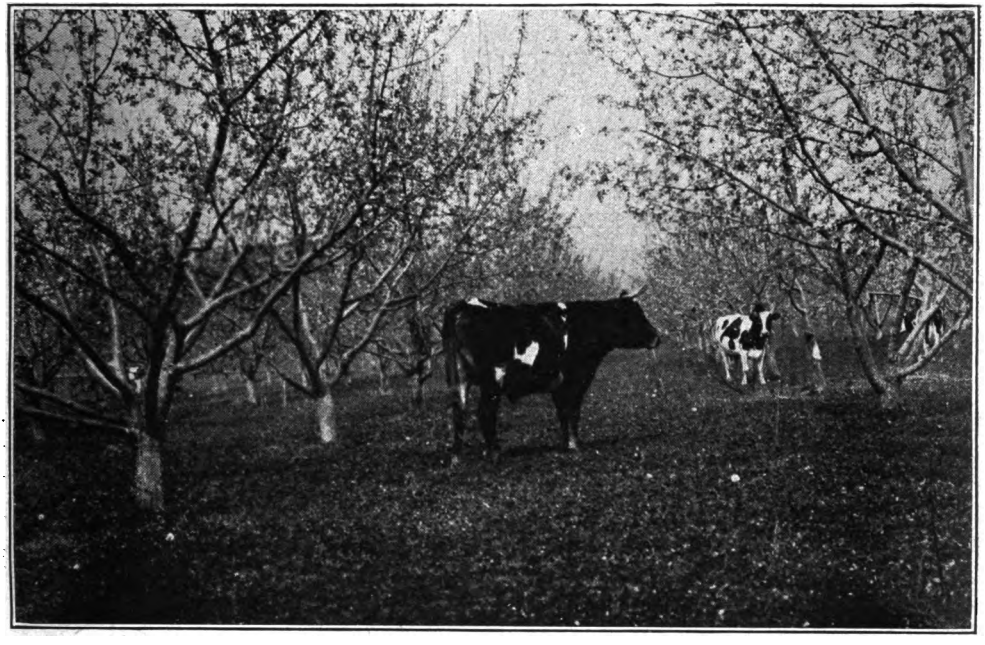
**Fruit Growing Sections.**

While apples and other fruits are grown in all parts of Montana it is in western and northwestern Montana where the business is conducted on a commercial scale. Apples and cherries from Missoula, Ravalli and Flathead counties are shipped each year to all parts of the United States, certain varieties grown in these sections having a national reputation and commanding fancy prices. In almost every county in the state strawberries and other small fruits are grown on a limited scale, but the small fruit industry has never been actively prosecuted in any section, save in the Bitter Root country. This is a field which offers great opportunities for the person who has a liking for the business, as the home demand is supplied almost exclusively from outside the state.

**Alfalfa and Sugar Beets.**

There are two reasons for the growth of the dairy industry in Montana. One is that except in the higher lands alfalfa has been found to be a most profitable

Digitized by Google



At Noon in a Western Montana Orchard

hay crop, and the other is the establishment and growth of the sugar beet industry. Introduced in Montana a quarter of a century ago, alfalfa has proved to be adapted to conditions in all parts of the state. The production averages four tons to the acre, and the quality is of the very best. Alfalfa seed produced in Montana commands a premium in the seed markets of the country, because it is not only a better drought resister than that produced in other sections, but also because it is hardier, and successfully stands a cold winter. Not only has alfalfa been a factor in developing the dairy industry, but it has also played a large part in Montana in the development of the hog business.

The manufacture of beet sugar was started in Montana a number of years ago, a factory being located at Billings. Recently another factory has been opened at Missoula and indications are that several other factories will be constructed in various parts of the state as soon as conditions become normal.

The beet tops make an excellent winter feed for dairy animals, and the by-products in the manufacture, which are shipped to much of the contiguous territory, are also excellent for dairy cattle.

### Peas a Valuable Crop.

Peas grown in Montana are considered by authorities as the most valuable produced in the United States for seed and canning purposes. Seed houses twenty years ago began experimenting with the Montana pea and discovered that it was in high favor.

At that time, however, farming was secondary in importance to stock raising and it was impossible to secure the supply needed. For a time, therefore, the industry languished, but with the increase of farming, came a corresponding increase in pea cultivation, 'though it by no means has reached a point anywhere commensurate with the demand.

Digitized by Google

Typical Ranch Home in Valley County

Peas for seed have been successfully grown in western, central and eastern Montana. There are certain favored localities where the yield is heavier than others, but the quality is the same. The yield is from 15 to 28 bushels per acre.

Peas grown in this state are high in nutriment content and are regarded as superior to the French pea which had the favor of the market for many years. Within the past few years representatives of seed companies have visited the state interesting the farmers in their cultivation for seed.

A cannery in the western part of the state which specializes in the canning of peas, finds that the demand is three fold the supply. The Montana canned peas top the market. The time is not far distant when canneries and seed houses will have made the pea crop one of the most valuable in the state.

**Extending the Swine Industry.**

It is not many years since Montana depended almost wholly upon imports for its pork products, fresh and cured. But the extension of the dairy business and the growth of diversified farming had the effect of directing attention to the possibilities of swine raising. Settlers who had lived in the middle western states and who understood hog raising made the first experiments, and they found to their surprise that alfalfa and peas made splendid hog feed. But the principal thing tending to a growth of the business was the comparative freedom from disease of hogs in Montana. As a result the business has grown rapidly in the past five years, and there are more good sized herds of hogs in the state today than were individual hogs fifteen years ago. Instead of importing all of its hog products Montana has been able to export porkers. All the best known breeds are represented, and there are more than 100 breeders who make a specialty of supplying others with registered breeding stock.

**Many New Towns.**

Naturally with the growth of the agricultural industry there have come into being many new towns, while the older ones have grown fast. Five years ago

Digitized by Google

An Irrigated Eastern Montana Corn Field

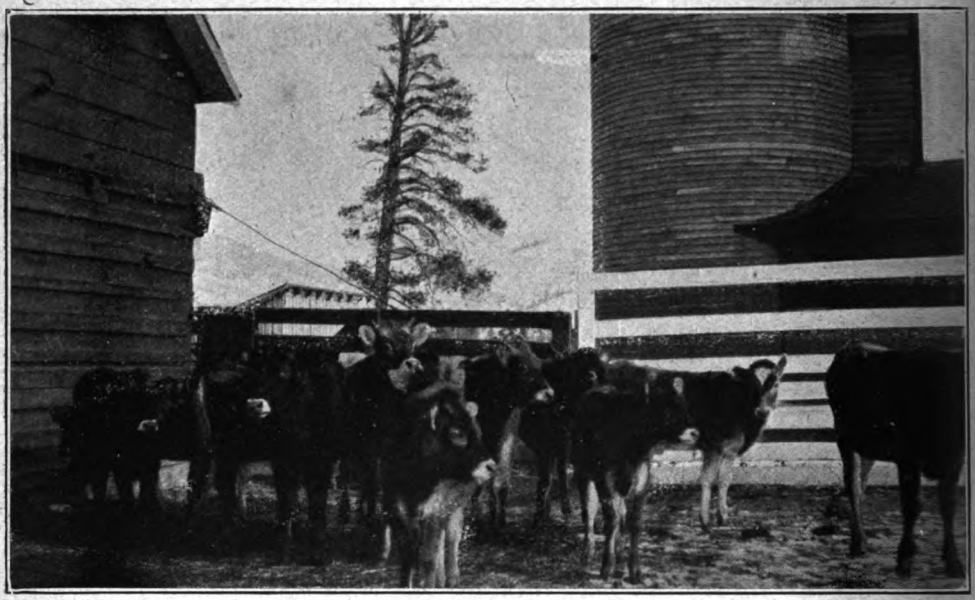
there were not to exceed 150 grain elevators in Montana. To-day there are close to 1,000, and almost every one of these later ones is located in a new town. Railroad extensions, such as the Chicago, Milwaukee and St. Paul, and branches built by the Northern Pacific and Great Northern, have developed the country adjacent; enterprising business men have taken advantage of the opportunity to start a general store, build an elevator or open a bank, and many a town has sprung into being in twelve months, backed by a producing farming community, and having a solid foundation. For the next ten years this story of business opportunity in new towns will be repeated all over the state until Montana has a population of several millions, instead of a few hundred thousand.

**Mining a Great Industry.**

While the agricultural development of Montana has been phenomenal, it has not been at the expense of that of mining, along which line Montana first attracted the attention of the world. From its mines Montana has added hundreds of millions in the past fifty years to the wealth of the world, and it is still doing so by hundreds of millions annually. No mining district in all the world is richer than that of Butte, and no city built upon that industry is more prosperous. But Silver Bow county, in which the Butte district is situated, is not the only one which helps give Montana pre-eminence as a mining state. It is difficult for those who are unacquainted with the state to realize that within its borders there is untold wealth in its hills, and that the same state is rapidly obtaining similar pre-eminence in an agricultural way. But statistics compiled by departments of the national government show this is the fact.

Placer mining, which first attracted the fortune seeker to Montana, is not carried on on a very large scale today. It has given place to quartz mining. Instead of the gold being taken out of the gravel and sands of the streams it is

Digitized by Google



Builders of a Dairy Herd

now taken out of the mineral bearing rocks which are taken from the hills. Gold, silver, and copper mining employs in Montana today directly many thousands of men; many more thousands indirectly, and the industry in a dozen counties furnishes a splendid market for the products of the farms. There are as attractive opportunities today for the man who desires to invest in the mining industry as there have been offered at any time in the history of the state.

### Gas and Oil Development.

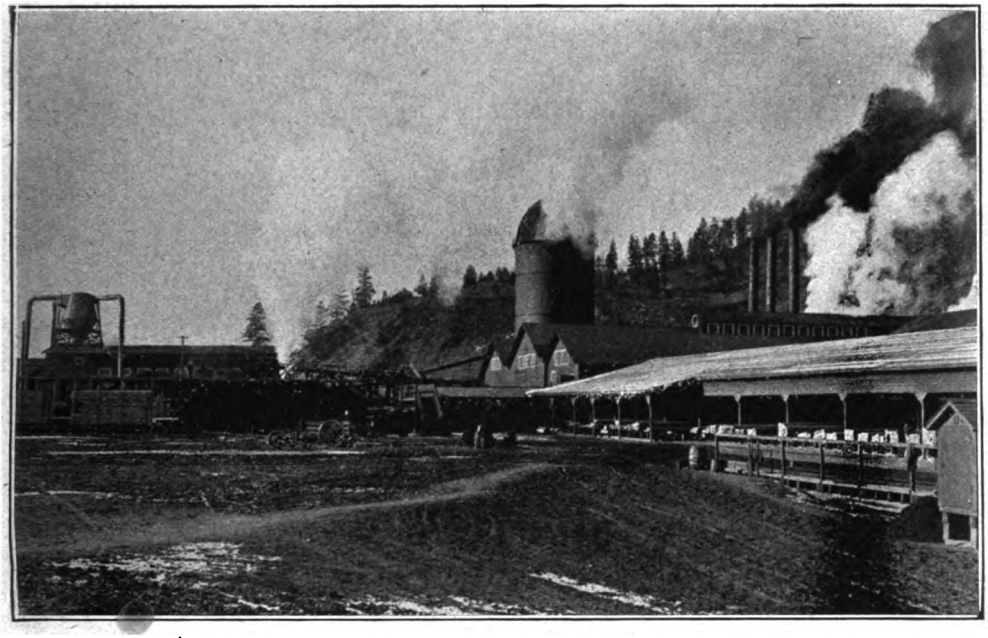
An attractive field for speculative investment is offered in Montana in those sections where gas and oil have been developed. In northern Montana, in Hill county, the city of Havre is lighted and heated with natural gas. In Fallon county, in the vicinity of Baker, gas has been developed to the point where it is used for manufacturing purposes, and there is in process of formation a company which proposes to use it in the manufacture of carbon black, used in automobile tires and in other ways.

In south eastern Montana producing oil wells have been developed, and in other sections of the state men who believe fortune may be won in oil are prospecting and boring.

### Development of Water Power.

In the development of its water power Montana is far ahead of any other state in the country. Many millions of dollars have been expended in the work, there are half a dozen hig hydro-electric plants, developing several hundred thousand horse power. This power is used in the mines at Butte, the smelters at Great Falls and Anaconda, to light more than a score of towns in the state, to run street cars in half a dozen cities, to furnish power to many manufacturing concerns, and it is used also to run trains for almost 500 miles on the Chicago, Milwaukee and St. Paul railway. The first railroad in the United States to be operated by electric power was the Butte, Anaconda and Pacific, about fifty miles,

Digitized by Google



One of the Big Lumber Mills in Western Montana

running from Butte to Anaconda. The electrification of that road, which does a large freight and passenger business, demonstrated its feasibility and economy.

The development of hydro-electric power in Montana is but in its infancy, and the numerous streams arising in the mountains in all sections of the state offer opportunities for capital which are peculiarly attractive. The pioneering in this field has been done, and the market for the power demonstrated.

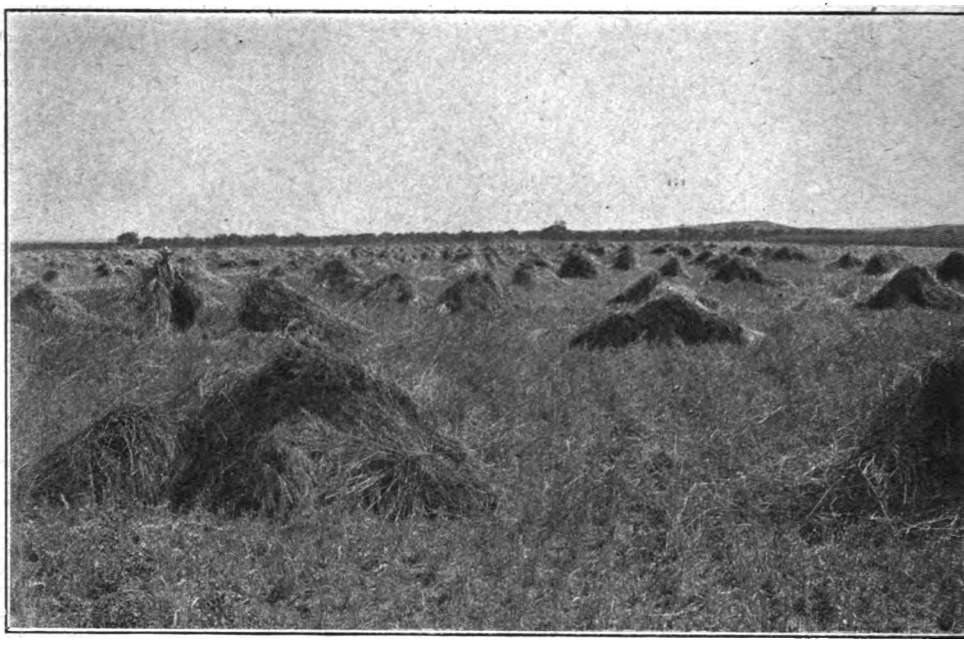
### Montana's Climate.

Climatically Montana compares favorably with any of her sister states. Reports of the United States weather bureau show that the annual mean temperature for the past ten years is 42.3 degrees. The mean for January, the coldest month, is 18.7, and the mean for July, the warmest is 64. In the mountains during the winter months there are times when the temperature goes to 20 and 25 below zero, while in the eastern and northern part of the state there are times in the summer, July and August, when it reaches 100. It is in these latter sections that the growing of corn is carried on on a commercial scale. The average annual precipitation in Montana is 15.71 inches, with the average for June, the month when precipitation is needed by the farmers, 2.81 inches. The elevations above sea level run from 1,800 in eastern Montana to 10,000 feet in the mountains.

### Switzerland of America.

Scenically, Montana may be called the Switzerland of America. Two of the greatest and most wonderful of the national parks are situated within its borders—Yellowstone and Glacier. But the scenic attractions of the state are not confined to the parks. In every section there is a diversity of mountains and plain, canyon and plateau, rushing rivers and broad and placid lakes, with a system of roads the delight of the traveler by auto or road wagon.

Digitized by Google



Crop of Wheat in Prickly Pear Valley, Near Helena; Which Threshed Seventy Bushels to the Acre in September, 1917

Whether the opportunity is sought to make a home on the land, to engage in mercantile business, to develop wealth from the hills or one desires to spend a vacation in the open, with a new picture presented almost every hour, nowhere can these desires be met more fully than in "Montana, the Treasure State."

## Montana's Wealth Tersely Told.

With a total of $342,000,000 of wealth produced in 1916 and an estimated total in excess of that amount for 1917, Montana is shown to be one of the commonwealths in America upon which the government relies for supplies during the war.

Statistics compiled in 1916 from official sources show there was produced:

| | |
|---|---|
| Mineral wealth | $145,000,000 |
| Farm products | 121,000,000 |
| Livestock | 54,000,000 |
| Wool | 8,000,000 |
| Lumber | 8,000,000 |
| Coal | 6,000,000 |
| Total | $342,000,000 |

A conservative estimate of the population shows 754,000, although the federal government has estimated it in excess of that amount in assigning the quota of troops which the state furnishes.

Another evidence of the wealth of the state is shown in the total assessed valuation of the counties, exclusive of railroad properties. It amounts in 1917 to $502,599,766. The total acres of land assessed in the 43 counties aggregates 36,252,106.

Montana's financial resources were demonstrated in its record in the two Liberty Loan campaigns. Its apportionment of the first call for $2,000,000,000 was $6,768,000.

It raised $15,850,000, leading the nation in percentage of over subscription.

Montana's apportionment of the second loan of $5,000,000,000 was $15,000,000. The state subscribed more than $21,000,000.

Digitized by Google

# Land is Opportunity

## Millions of Acres of Government, State and Private Holdings Make It Easy for Ambitious to Secure Homes in Prosperous Montana

THE OPPORTUNITY of the present day lies in land, and the millions of acres of fertile, but uncultivated land in Montana opens wide the door to prosperity for those ambitious and energetic enough to secure a farm of their own. Uncultivated land, the world over, is rapidly growing scarcer and more valuable; every year there is a marked increase in the demand for land and land products, and year by year there is a gradual increase in the prices of practically everything which is raised on the farm. In the populous states of the east, farm land now commands a price which makes it impossible for the man of small or moderate means to become a freeholder. In Montana, where land is even more productive than in states where it sells for a much higher price, land values are rapidly increasing and the day will soon come when the same crowded condition will prevail here and when land prices will likewise be prohibitive to the ordinary farmer. It thus behooves those who hope to secure farm lands at reasonable prices to act quickly.

### Three Classes of Lands.

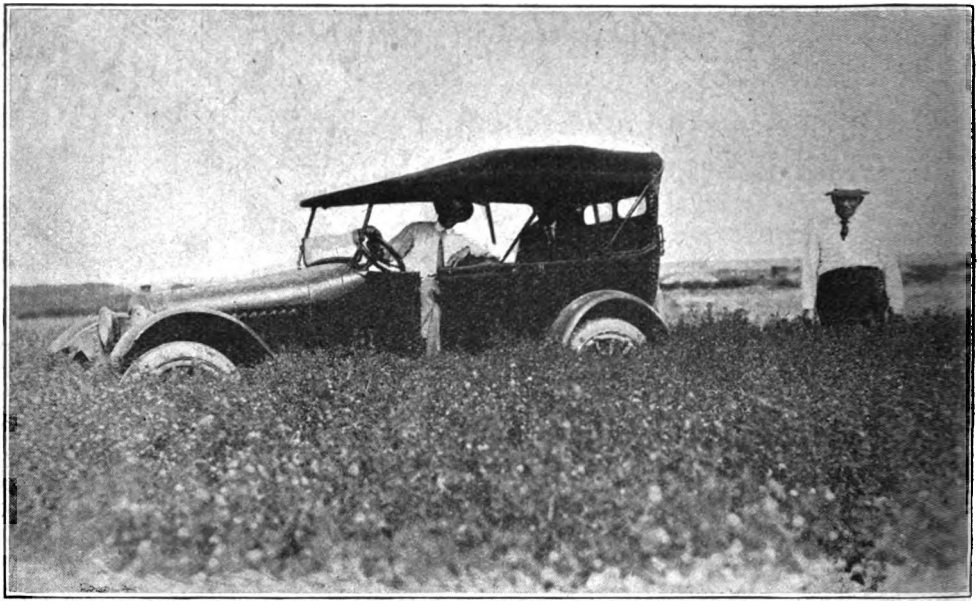
The uncultivated land of Montana, which is available to the homeseeker, may be divided into three great classes—public land, which may be secured by compliance with the provisions of the homestead law; state lands, which may be purchased on easy terms with payments extended over a period of twenty years, and large private land holdings which are being cut up and sold to settlers. It is the purpose of this chapter to tell something about the character of these lands, the crops which they will produce and the manner in which they may be obtained.

The great influx of settlers has been drawn to Montana by the liberal provisions of the homestead law, under which the government seeks to give to its citizens an opportunity to secure a home at the expenditure of merely the time and labor necessary to make it productive. It is doubtful if there has ever been a finer vindication of the wisdom of the government policy for the disposition of the public domain than that furnished by Montana in recent years, during which time tens of thousands of ambitious farmers, learning of the superior productive power of Montana lands, have taken advantage of the homestead laws to come to this state and secure a home. In the last few years, more than one-third of all of the homesteads "taken up" in the United States have been filed in Montana, and almost without exception those who have settled in this state have made good and are now on the road to prosperity.

### Influx of Settlers.

Interesting figures may be secured from the reports of the Commissioner of the General Land Office, showing the great influx of settlers to this state. The following tables, covering the years 1911-1916 inclusive, show the number of homestead entries and the acreage embraced therein, the number of entries of all kinds, and the acreage embraced in original entries, the number of acres upon which final proof was made and the number of acres patented from the government to settlers:

Digitized by Google



Valley County Alfalfa Ready for Second Cutting

| Year | Homestead Entries | | Entries All Kinds | | Final Proof & Patents | |
|---|---|---|---|---|---|---|
| | No. | Acres | No. | Acr. Orig. | Acr. Proof | Acr. Pat. |
| 1911 | 15,399 | 3,917,816 | 21,988 | 4,257,302 | 522,269 | 1,187,312 |
| 1912 | 12,597 | 3,234,199 | 20,626 | 3,600,260 | 629,835 | 742,230 |
| 1913 | 17,844 | 3,996,358 | 29,246 | 4,675,840 | 1,475,722 | 2,342,923 |
| 1914 | 20,622 | 4,429,623 | 37,699 | 5,335,393 | 2,667,632 | 3,485,067 |
| 1915 | 16,146 | 3,500,268 | 30,395 | 4,065,439 | 2,358,655 | 3,994,418 |
| 1916 | 14,486 | 3,318,450 | 28,913 | 3,674,623 | 2,453,228 | 2,815,378 |

**Millions of Acreas Available.**

According to the last available report of the Commissioner of the General Land Office, dated July 1, 1916, there yet remained in Montana more than 16,000,000 acres of unappropriated and unreserved public land, subject to entry under the homestead laws, practically half of which it is conservatively estimated is suitable for farming. The homestead laws have recently been greatly liberalized. Formerly, in order to secure a homestead of 160 acres it was necessary for the settler to reside upon and cultivate his land continuously for a period of five years. Under a recent act of congress this period of residence and cultivation has been reduced to three years, while the homesteader is allowed an annual period of absence of not to exceed five months during each of these years. Recent legislation has also increased the amount of land which may be taken up. At the present time, homesteads of 320 acres may be secured where the land has been designated as not susceptible of irrigation. Practically all of the remaining public land in Montana has already been so designated. January 2, 1917, the so-called 640-acre homestead law became operative. Under the provisions of this law, settlers are allowed to file upon as much as 640 acres of land, provided the land is designated as being more valuable for stock-raising and grazing, than farming purposes. The dely in the designation of this class of lands has not contributed to the success of this legislation, and many persons who sought to enter land under this law

Digitized by Google

Swine Raising a Growing Industry

are still waiting for the designation of the lands sought to be entered. On the other hand, the administration of the 320 acre homestead law has been an unqualified success. Those who file under this act are permitted to enter upon their lands at once and begin the building of a home, with the assurance that if they comply with the requirements of law they will secure title at the expiration of the three year period.

**Ten Land Districts.**

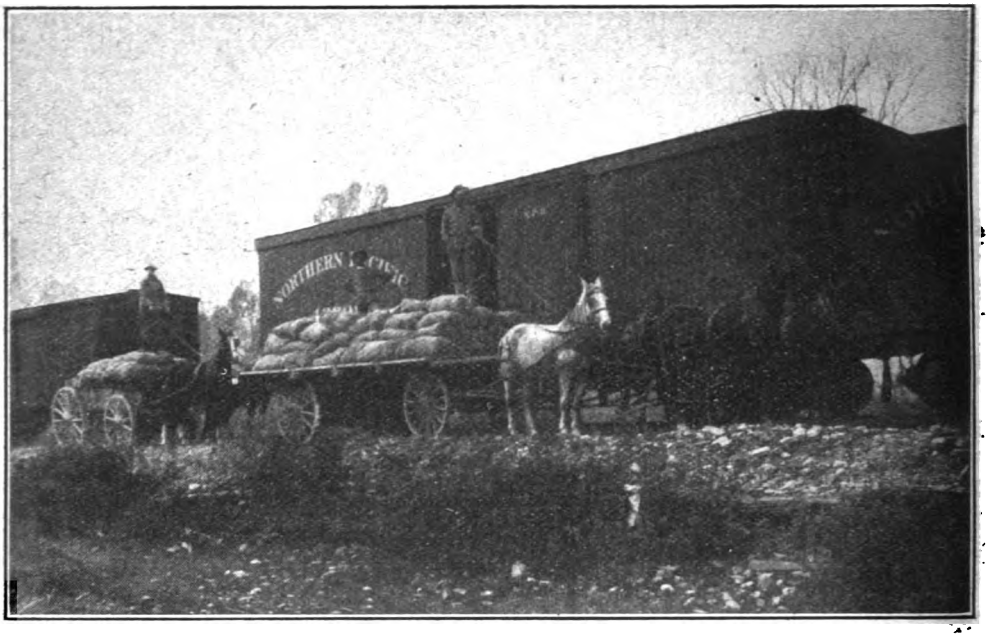
Montana is divided into ten land districts, each containing a United States land office for the administration of the public land affairs of that particular district. These land offices are located at Billings, Bozeman, Glasgow, Great Falls, Havre, Helena, Kalispell, Lewistown, Miles City and Missoula. Persons desiring to make homestead entry should first fully inform themselves as to the character and quality of the land they desire to enter and should in no case apply to enter until they have visited and fully examined each legal subdivision for which they make application, as satisfactory information as to the character and occupancy of public land cannot be obtained in any other way.

All proceedings connected with the entering and filing on a homestead are conducted by the officials of the land office for the land district where the land is located. No maps are issued showing the location of vacant public land subject to entry, and this information can be reliably obtained only from the records of the various land offices. Township plats, showing the vacant public land in any particular township, may be secured from the land office at the price of one dollar each.

**What May Be Filed On.**

All unappropriated surveyed public lands adaptable to any agricultural use are subjected to homestead entry if they are not mineral or saline in character and are not occupied for the purpose of trade or business and have not been embraced within the limits of any withdrawal, reservation or incorporated town or city, but home-

Digitized by Google




Thousands of Bushels of Potatoes Are Shipped

stead entries on lands within certain areas are made subject to the particular requirements of the laws under which such lands are open to entry.

Homestead entries may be made by any person who does not come within either of the following classes.

(a) Married women, except as hereinafter stated.

(b) Persons who have already made homestead entry, except in certain cases where former entry has been cancelled through no fault of the entryman.

(c) Foreign-born persons who have not declared their intention to become citizens of the United States.

(d) Persons who are the owners of more than 160 acres of land in the United States.

(e) Persons under the age of 21 years who are not the heads of families except minors who make entry as heirs, or who have served in the Army or Navy during the existence of an actual war for at least 14 days.

(f) Persons who have acquired title to or are claiming, under any of the agricultural public land laws, through settlement or entry made since August 30, 1890, any other lands which, with the lands last applied for, would amount in the aggregate to more than 320 acres.

A married woman who has all of the other qualifications of a homesteader may make a homestead entry under any one of the following conditions:

(a) Where she has been actually deserted by her husband.

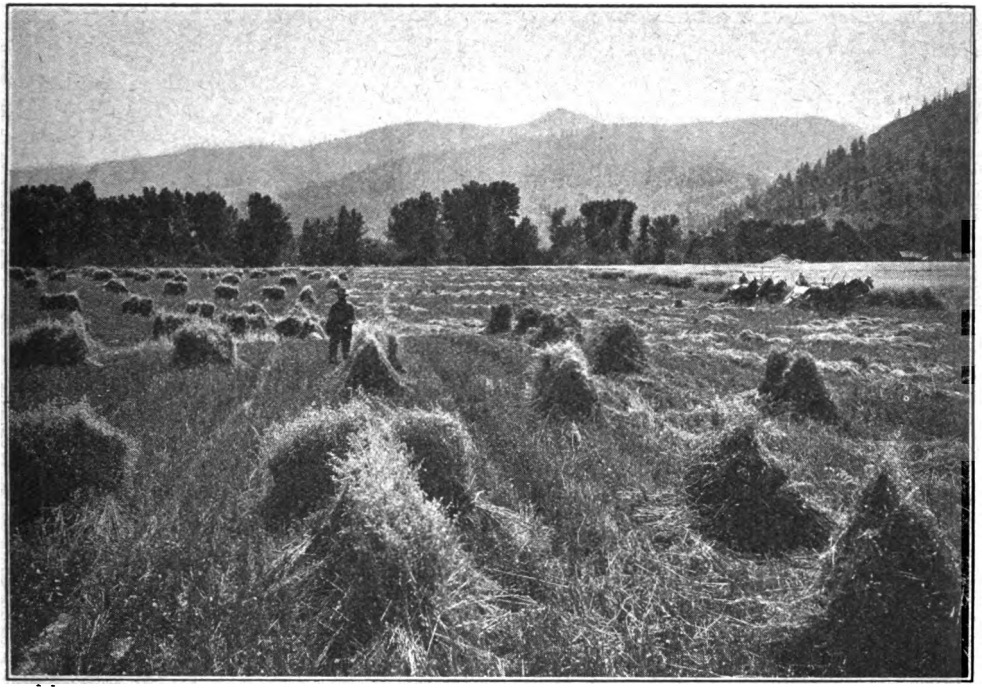
(b) Where her husband is incapacitated by disease or otherwise from earning a support for his family and the wife is really the head and main support of the family.

head of the family.

(d) Where the married woman is the heir of a settler or contestant who dies

(c) Where the husband is confined in a penitentiary and she is actually the before making entry.

Digitized by Google



Harvesting Prize Winning Oats in Flathead

(e) Where a married woman made improvements and resided on the land applied for before her marriage, she may enter them after marriage if her husband is not holding other lands under an unperfected homestead entry at the time she applies to make entry.

The marriage of the entrywoman after making entry will not defeat her right to acquire title if she continues to reside upon the land and otherwise comply with the law.

A widow, if otherwise qualified, may make a homestead entry notwithstanding the fact that her husband made an entry and notwithstanding she may be at the time claiming the unperfected entry of her deceased husband.

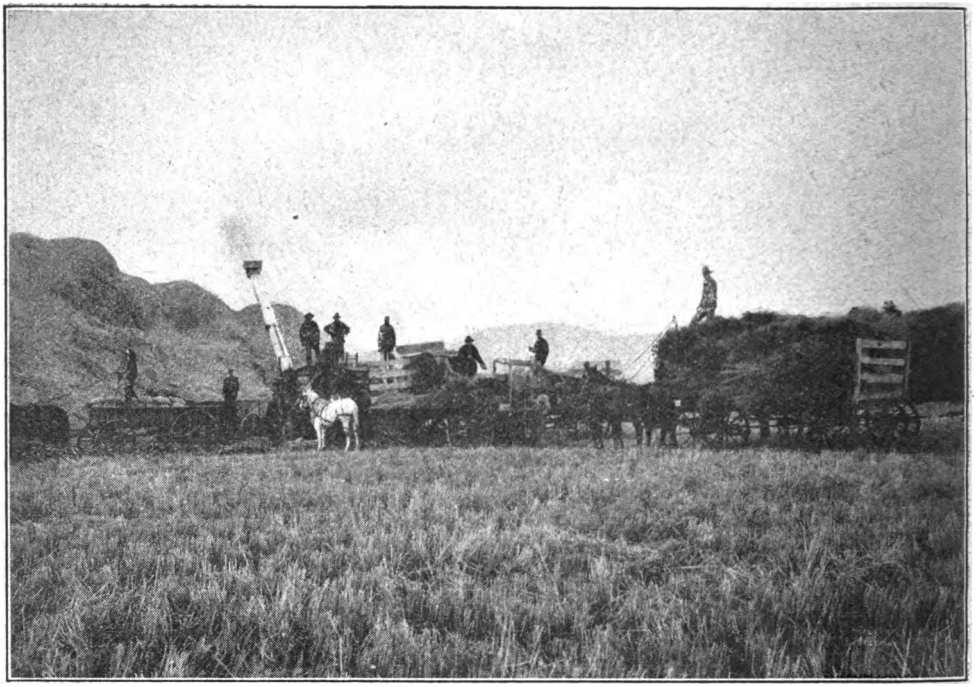
**Soldiers and Sailors.**

A person serving in the Army or Navy of United States may make a homestead entry if some member of his family is residing on the lands applied for, and application and accompanying affidavits may be executed before officer commanding branch of service in which he is engaged.

A homestead entry may be made by the presentation to the land office of the district in which the desired lands are situated of an application properly prepared on blank forms prescribed for that purpose and sworn to before either the register or receiver, or before a United States commissioner, or a judge, or a clerk of a court of record, in the county in which the land lies, or before any officer of the classes named who reside in the land district and nearest or most accessible to the land, although he may reside outside of the county in which the land is situated.

Each application to enter and the affidavits accompanying it must recite all the facts necessary to show that the applicant is acquainted with the land; that the

Digitized by Google



Threshing the Seasons Grain in Montana

land is not, to the applicant's knowledge, either saline or mineral in character; that the applicant possesses all the qualifications of a homestead entryman; that the application is honest and in good faith made for the purpose of actual settlement and cultivation, and not for the benefit of any person, persons or corporation; that the applicant will faithfully and honestly endeavor to comply with the requirements of the law as to settlement, residence and cultivation necessary to acquire title to the land applied for; that the applicant is not acting as the agent of any person, persons, corporation or syndicate in making such entry, nor in collusion with any person, corporation or syndicate to give them the benefit of the land entered or any part thereof; that the application is not made for the purpose of speculation, but in good faith to obtain a home for the applicant, and that the applicant has not directly or indirectly made, and will not make, any agreement or contract in any way or manner with any person or persons, corporation or syndicate whatsoever, by which the title he may acquire from the government to the lands applied for shall inure, in whole or in part, to the benefit of any person except himself.

### Six Months for Settlement.

A homestead entryman is required to establish residence upon the land within six months after the date of entry unless an extension of time is allowed, and is required to maintain residence thereon for a period of three years. He may absent himself, however, for a portion of each year not exceeding five months.

Cultivation of the land for a period of three years is required. During the second year not less than one-sixteenth of the area entered must be actually

Digitized by Google

Harvesting on the Rich Bench Lands

cultivated, and during the third year, and until final proof cultivation of not less than one-eighth is required. There must be actual breaking of the soil followed by planting, sowing of seed and tillage of a crop other than native grasses.

The homestead entryman must have a habitable house upon the land entered at the time of submitting proof. Other improvements should be of such character and amount as are sufficient to show good faith.

All original, second and additional homestead, and adjoining farm entries may be commuted, except such entries as are made under particular laws which forbid their commutation.

The entryman or his statutory successor submitting such commutation proof must show substantially continuous residence upon the land, and cultivation thereof, for a period of at least fourteen months immediately preceding submission or proof of filing a notice of intention to submit same, and the exercise of a habitable house upon the claim. The area actually cultivated must equal at least one-sixteenth of the entire acreage. A person submitting commutation proof must in addition to certain fees, pay the price of the land; this is ordinarily $1.25 per acre, but is $2.50 per acre for lands within the limits of certain railroad grants. The price of certain ceded Indian lands varies according to their location, and inquiry should be made regarding each specified tract.

## Land Office Fees.

When a homesteader applies to make entry he must pay in cash to the receiver a fee of $5.00 if his entry is for 80 acres or less, or $10.00 if he enters more than 80 acres. And in addition to this fee he must pay, both at the time he makes entry and final proof, a commission of $1.00 for each 40-acre tract entered outside of the limits of a railroad grant and $2.00 for each 40-acre tract entered within such limits. Fees under the enlarged homestead act are the same as above, but

Digitized by Google

the commissions are based upon the area of the land embraced in the entry. In all cases where lands are entered under the homestead laws of Arizona, California, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming, the commission due to the register and receiver on entries and final proofs, and the testimony fees under final proofs, are 50 per cent more than those above specified, but the entry fee of $5.00 or $10.00, as the case may be, is the same in all the states.

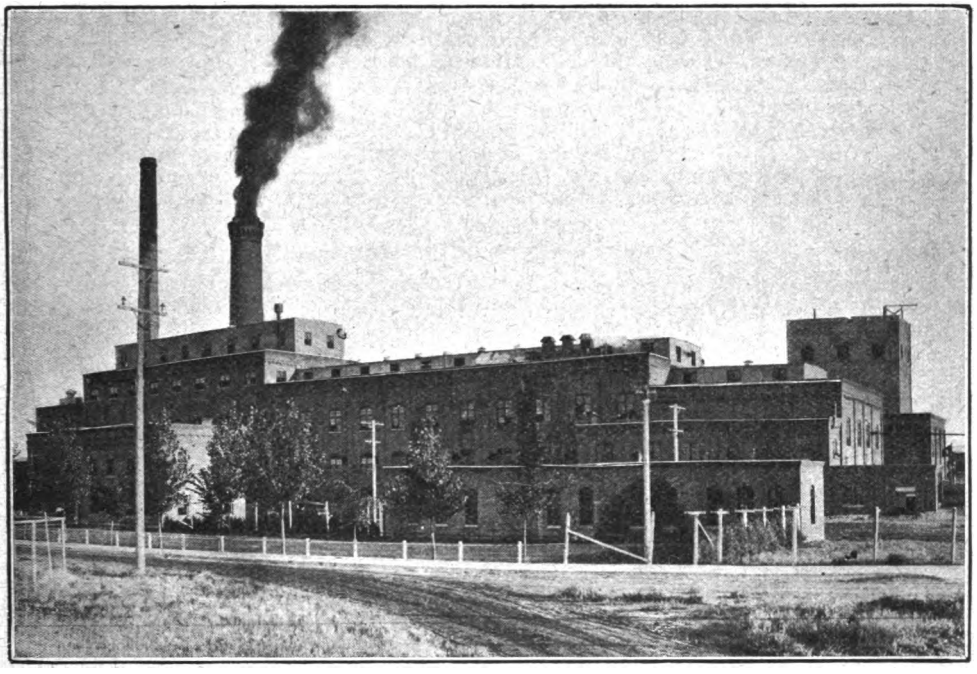
A mortgage by the entryman prior to final proof for the purpose of securing money for improvements, or for any other purpose not inconsistent with good faith, is not considered such an alienation of the land as will prevent him from submitting satisfactory proof. On such a case, however, should the entry be cancelled for any reason prior to patent, the mortgagee would have no claim on the land or against the United States for the money loaned.

**This Shows Land Open to Filing.**

The following table shows the amount of unappropriated and unreserved public land, available for homestead entry, in each county of Montana July 1, 1916:

| | Surveyed | Unsurveyed | Total |
|---|---|---|---|
| Beaverhead | 565,195 | 564,366 | 1,129,561 |
| Big Horn | 168,230 | 153,600 | 321,830 |
| Blaine | 218,280 | 389,980 | 608,260 |
| Broadwater | 179,817 | 7,040 | 186,857 |
| Carbon | 153,164 | 157,046 | 310,210 |
| Cascade | 129,178 | 63,476 | 192,654 |
| Chouteau | 235,247 | 117,140 | 352,387 |
| Custer | 943,680 | 380,160 | 1,323,840 |
| Dawson | 651,667 | 1,434,307 | 2,085,974 |
| Deer Lodge | 72,106 | ..... | 72,106 |
| Fallon | 552,000 | 741,280 | 1,293,280 |
| Fergus | 462,204 | 276,970 | 739,174 |
| Flathead | 77,400 | ..... | 77,400 |
| Gallatin | 16,547 | ..... | 16,547 |
| Granite | 17,000 | 79,000 | 96,000 |
| Hill | 151,803 | 4,320 | 156,123 |
| Jefferson | 325,113 | 21,523 | 346,636 |
| Lewis & Clark | 268,927 | 197,680 | 466,607 |
| Lincoln | 4,270 | ..... | 4,270 |
| Madison | 294,511 | 330,718 | 625,229 |
| Meagher | 289,639 | 39,760 | 329,399 |
| Mineral | 57,048 | ..... | 57,048 |
| Missoula | 32,930 | 37,636 | 70,566 |
| Musselshell | 45,751 | 19,200 | 64,951 |
| Park | 27,295 | 10,155 | 37,450 |
| Phillips | 599,940 | 1,297,024 | 1,896,964 |
| Powell | 73,266 | 87,820 | 161,086 |
| Prairie | 74,400 | ..... | 74,400 |
| Ravalli | 3,073 | 388 | 3,461 |
| Richland | 113,725 | 103,332 | 217,057 |
| Rosebud | 473,382 | 93,600 | 566,982 |
| Sanders | 50,685 | 34,162 | 84,847 |
| Sheridan | 448,085 | ..... | 448,085 |
| Silver Bow | 116,492 | 22,760 | 139,252 |
| Stillwater | 30,511 | ..... | 30,511 |
| Sweetgrass | 130,620 | ..... | 130,620 |
| Teton | 191,472 | 30,080 | 221,552 |
| Toole | 114,909 | 4,160 | 119,069 |
| Valley | 818,416 | 697,772 | 1,516,188 |
| Wibaux | 27,840 | ..... | 27,840 |
| Yellowstone | 23,336 | 24,116 | 47,452 |
| Total | 9,229,154 | 7,420,571 | 16,649,725 |

Digitized by Google



One of Montana's Beet Sugar Factories

### May Buy State Lands.

An ususual opportunity is offered in the state lands of Montana. The lands granted to the state by the congress of the United States for the benefit of the public schools and other public purposes remaining unsold at the present time aggregate 4,388,137 acres, classified as grazing, agricultural, timber and coal lands. Sections 16 and 36 in each township in the state, outside of Indian reservations and national forests, are state land unless they have been sold, and in addition to these two sections in each township, the state has selected land in every part of the state. These state selections were made before the great rush of homesteaders absorbed the most available part of the public domain, and it is therefore possible for those buying state land to secure desirable tracts in the best developed sections of the state. For those who wish to secure land in the well settled districts of Montana and who do not desire to reside upon the land while securing title, the purchase of state lands is strongly recommended.

Sales of state land are made at public auction, a sale being usually held in each county once a year. The land is sold for not less than the appraised price, the minimum being $10.00 per acre. Sales are made upon the basis of 15 percent cash, the remainder of the purchase price to be paid in twenty equal annual installments with interest at the rate of five percent.

### How to Obtain State Land.

The State Board of Land Commissioners is custodian of all state lands, and the fixing of sale dates is discretionary with this board. Those who desire to buy or lease state land should make formal application to the Register of State Lands, Helena, Montana, upon the receipt of which, together with a fee of 50 cents, the land will be offered for sale at public auction at the next sale held in the county

Digitized by Google

where the land is situated. Advance notice of sale will be mailed to the applicant. Sales of state land can be only made to citizens of the United States or to those who have declared their intention to become such or to corporations organized under the laws of this state.

The amount of state land which may be purchased by any individual or corporation is strictly limited by law, to the end that the land, when sold by the state, will pass directly into the possession of actual settlers. Not more than 160 acres classified as agricultural land and susceptible of irrigation, nor more than 320 acres classified as agricultural land not susceptible of irrigation, nor more than 640 acres classified as grazing land can be sold to one purchaser.

### May Lease for Five Years.

State lands not sold may be leased for a period not exceeding five years, and the purchaser of state land upon which a lessee has improvements must pay the lessee a reasonable value therefor. If the lessee and the purchaser cannot agree on the value of the improvements, the State Land Agent fixes the price the purchaser must pay for the same. Lessees of state land are required to pay a rental for grazing use of $50.00 to $100.00 per section per annum and for agricultural use from $150.00 to $320.00 per section per annum.

The following table shows the amount of state land in each of the several counties of the state November 30, 1917:

| County | Acres |
|---|---|
| Beaverhead | 175,901.64 |
| Big Horn | 39,818.68 |
| Blaine | 164,142.32 |
| Broadwater | 21,847.60 |
| Carbon | 42,091.39 |
| Cascade | 86,725.03 |
| Chouteau | 276,798.99 |
| Custer | 205,399.04 |
| Dawson | 258,652.65 |
| Deer Lodge | 9,471.92 |
| Fallon | 127,483.01 |
| Fergus | 240,051.45 |
| Flathead | 112,971.44 |
| Gallatin | 54,976,69 |
| Granite | 17,210.56 |
| Hill | 204,183.04 |
| Jefferson | 25,515.77 |
| Lewis & Clark | 102,126.25 |
| Lincoln | 53,195.50 |
| Madison | 113,355.52 |
| Meagher | 133,429.39 |
| Mineral | 26,090.87 |
| Missoula | 74,986.98 |
| Musselshell | 93,388.42 |
| Park | 36,886.71 |
| Phillips | 111,168.25 |
| Powell | 49,471.81 |
| Prairie | 59,338.48 |
| Ravalli | 26,458.05 |
| Richland | 91,201.42 |
| Rosebud | 194,405.02 |
| Sanders | 57,637.68 |
| Sheridan | 178,424.08 |
| Silver Bow | 14,602.74 |
| Stillwater | 41,231.81 |
| Sweet Grass | 72,042.59 |
| Teton | 155,116.32 |
| Toole | 110,506.71 |
| Valley | 347,507.94 |
| Wibaux | 31,358.21 |
| Yellowstone | 68,133.82 |
| Total | 4,308,305.78 |

Digitized by Google

Growing of Sugar Beets is Profitable

### A Gilt-Edged Investment.

Many farmers, who have used their homestead rights or are in a position to buy farming land outright, are taking advantage of the comparatively low prices at which Montana lands are held and are purchasing land here which, if history is any precedent, is certain to double in market value within the next few years. When it is considered that farming lands in the older states of the Union are selling at from $100 to $200 per acre, and that land which will actually produce more can be purchased in Montana at from $10 to $40 per acre the wisdom of such a course becomes apparent.

Many thousands of acres of fine farming land are now being marketed by the Northern Pacific Railway company, the Big Blackfoot Lumber company, and many of the larger old-time ranching companies of the state. The Northern Pacific lands in eastern Montana and the Big Blackfoot lands in the western part of the state constitute an empire in themselves and are being sold to actual settlers at prices which are far below their actual productive value.

### Logged-Off Lands.

Much interest has recently been shown in the logged-off lands of western and northwestern Montana, and for the man with a little capital and a determination to succeed these offer an exceptional opportunity. There are thousands of acres of bench and valley lands from which timber has been removed, leaving the stumps and undergrowth upon a soil which when cleared is of uniformly fertile character, usually perfectly sub-irrigated and suitable for the growing of all kinds of crops. Much of this land is held by the big lumber companies of the state,

Digitized by Google

while a considerable portion of it is in private ownership by original homesteaders and timber entrymen. Land of this character can be bought on long-time payments at from $10.00 to $25.00 per acre, which many regard as cheaper than homesteading. Many of the finest orchards in the state were developed from cut-over lands, and throughout northwestern Montana are to be found thousands of sturdy farmers who have secured logged-off land and are building beautiful and substantial homes in what was until recently a wilderness.

Roughly speaking, the logged-off lands of Montana are in the counties of Lincoln, which has approximately 20,000 acres of such land; Flathead, with 70,000 acres; Missoula, 40,000 acres; Mineral, 35,000 acres; Sanders, 25,000 acres and Ravalli, 30,000 acres.

## Great Grain-Producing State.

That Montana is destined to become the great grain producing state of the Union is well illustrated by the remarkably rapid increase in the acreage devoted to small grains together with the unusually high average yield per acre maintained throughout the state. It has been well said that an acre in Montana is worth more than an acre elsewhere, and this statement is amply substantiated by the published statistics of the United States department of agriculture.

The following table shows the acreage, production and value of Montana's wheat crop over a period of seventeen consecutive years:

| Year | Acre | Bu. per Acre | Production | Value |
|---|---|---|---|---|
| 1900 | 72,555 | 26.6 | 1,929,963 | $ 1,177,277 |
| 1901 | 88,807 | 26.5 | 2,353,386 | 1,576,769 |
| 1902 | 90,583 | 26.0 | 2,355,158 | 1,460,198 |
| 1903 | 98,735 | 28.2 | 2,784,327 | 1,837,656 |
| 1904 | 108,608 | 23.9 | 2,596,731 | 2,311,091 |
| 1905 | 119,469 | 23.8 | 2,843,326 | 2,018,787 |
| 1906 | 137,389 | 24.0 | 3,297,336 | 2,110,295 |
| 1907 | 139,000 | 28.8 | 4,003,000 | 3,243,000 |
| 1908 | 153,000 | 24.2 | 3,703,000 | 3,185,000 |
| 1909 | 350,000 | 30.8 | 10,764,000 | 9,364,000 |
| 1910 | 480,000 | 22.0 | 10,560,000 | 9,081,000 |
| 1911 | 429,000 | 28.7 | 12,299,000 | 9,470,000 |
| 1912 | 803,000 | 24.1 | 19,346,000 | 12,381,000 |
| 1913 | 870,000 | 23.8 | 20,673,000 | 13,644,000 |
| 1914 | 910,000 | 20.2 | 18,356,000 | 16,704,000 |
| 1915 | 1,275,000 | 26.5 | 33,825,000 | 26,384,000 |
| 1916 | 1,485,000 | 19.3 | 28,655,000 | 46,134,000 |

## Oat Production Increases Ten-Fold

Montana is likewise becoming the greatest oat producing state of the Union, and the acreage devoted to this crop has increased more than ten fold during the seventeen year period during which the growth of agricultural Montana has been so marked. The following table shows the acreage, production and value of the Montana oat crop for the period mentioned:

| Year | Acre | Bu. per Acre | Production | Value |
|---|---|---|---|---|
| 1900 | 65,865 | 39.0 | 2,568,735 | $ 1,078,869 |
| 1901 | 147,365 | 42.0 | 6,189,330 | 2,228,159 |
| 1902 | 159,154 | 41.9 | 6,668,553 | 2,400,679 |
| 1903 | 162,337 | 46.4 | 7,532,437 | 2,636,353 |
| 1904 | 167,207 | 37.7 | 6,303,704 | 2,899,704 |
| 1905 | 178,911 | 41.3 | 7,389,024 | 3,177,280 |
| 1906 | 196,802 | 43.2 | 8,501,846 | 3,740,812 |
| 1907 | 240,000 | 49.0 | 11,760,000 | 5,410,000 |
| 1908 | 254,000 | 41.6 | 10,566,000 | 5,177,000 |
| 1909 | 300,000 | 51.3 | 15,390,000 | 6,464,000 |
| 1910 | 350,000 | 38.0 | 13,000,000 | 6,118,000 |
| 1911 | 425,000 | 49.8 | 21,165,000 | 8,466,000 |
| 1912 | 476,000 | 48.0 | 22,848,000 | 7,997,000 |
| 1913 | 500,000 | 43.5 | 21,750,000 | 6,960,000 |
| 1914 | 530,000 | 35.0 | 18,550,000 | 7,234,000 |
| 1915 | 600,000 | 52.0 | 31,200,000 | 9,984,000 |
| 1916 | 660,000 | 38.0 | 25,080,000 | 11,788,000 |

Digitized by Google

## Flax Good Sod Crop.

Flaxseed is one of the staple money crops for the farmer on new soil in Montana. Flax is a certain crop on sod and throughout the eastern section of the state it is regarded as the homesteader's never failing friend. The increased acreage of this crop is indicative of the amount of new ground put into cultivation each year, as it is customary to plant flax only on new sod. The following table shows the acreage, production and value of the flax crop of the state for the years shown:

| Year | Acre | Bu. per Acre | Production | Value |
|---|---|---|---|---|
| 1901 | 16 | 13.7 | 200 | $ 268 |
| 1902 | 12,500 | 9.0 | 112,500 | 76,500 |
| 1903 | 12,625 | 14.0 | 176,750 | 106,050 |
| 1904 | 9,334 | 8.0 | 74,672 | 70,938 |
| 1905 | 16,570 | 10.0 | 165,700 | 135,874 |
| 1906 | 24,855 | 12.0 | 298,260 | 298,260 |
| 1907 | 34,000 | 13.0 | 436,000 | 353,000 |
| 1908 | 9,000 | 11.5 | 104,000 | 104,000 |
| 1909 | 10,000 | 12.0 | 120,000 | 192,000 |
| 1910 | 60,000 | 7.0 | 420,000 | 1,008,000 |
| 1911 | 425,000 | 7.7 | 3,272,000 | 5,890,000 |
| 1912 | 460,000 | 12.0 | 5,520,000 | 6,182,000 |
| 1913 | 400,000 | 9.0 | 3,600,000 | 4,140,000 |
| 1914 | 300,000 | 8.0 | 2,400,000 | 2,880,000 |
| 1915 | 250,000 | 10.5 | 2,625.000 | 4,462,000 |
| 1916 | 325,000 | 9.5 | 3,088,000 | 7,658,000 |

## Production of Barley.

Although barley is not as extensively grown as are the other small grains, the state also boasts of a very heavy per acre production, as is shown by the following table covering a period of seventeen years:

| Year | Acres | Bu. per Acre | Production | Value |
|---|---|---|---|---|
| 1900 | 5,194 | 38.8 | 201,527 | $ 96,773 |
| 1901 | 16,398 | 39.0 | 639,522 | 364,528 |
| 1902 | 17,874 | 37.0 | 661,338 | 337,282 |
| 1903 | 18,231 | 40.2 | 732,886 | 425,074 |
| 1904 | 17,502 | 29.9 | 523,310 | 324,452 |
| 1905 | 15,227 | 33.0 | 512,491 | 281,395 |
| 1906 | 14,313 | 33.0 | 472,329 | 264,504 |
| 1907 | 17,000 | 38.0 | 646,000 | 400,000 |
| 1908 | 25,000 | 35.0 | 875,000 | 534,000 |
| 1909 | 50,000 | 38.0 | 1,900,000 | 1,197,000 |
| 1910 | 52,000 | 28.0 | 1,456,000 | 903,000 |
| 1911 | 31,000 | 34.5 | 1,070,000 | 728,000 |
| 1912 | 39,000 | 36.5 | 1,424,000 | 755,000 |
| 1913 | 60,000 | 31.0 | 1,860,000 | 893,000 |
| 1914 | 70,000 | 30.5 | 2,135,000 | 1,132,000 |
| 1915 | 80,000 | 34.0 | 2,720,000 | 1,306,000 |
| 1916 | 95,000 | 28.0 | 2,660,000 | 2,022,000 |

## Corn Growing Increases.

A few years ago anyone would have been laughed at for intimating that Montana could possibly be classified as a corn state, and yet what seemed out of the question then has become an established fact now and Montana is now producing about 2,000,000 bushels of corn per year, and the acreage devoted to this crop is being constantly increased. Montana farmers find corn a valuable crop, and with the increase in the number of livestock upon the farm there is bound to be an increase in this important cereal. The following table shows the acreage, production and value of the corn crop for the past seventeen years:

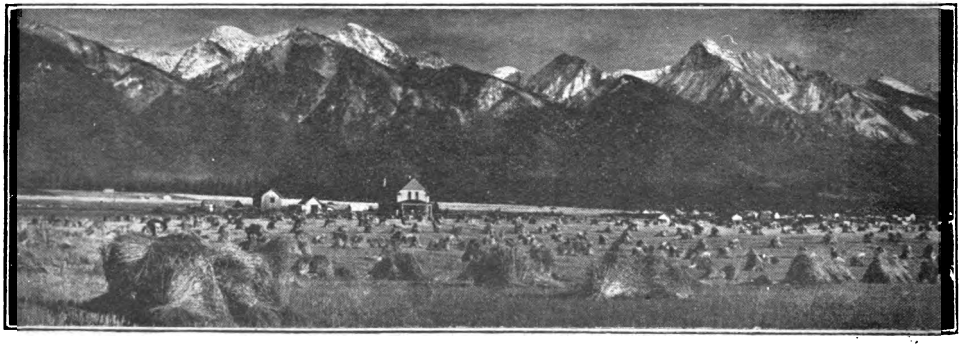
Digitized by Google

| Year | Acres | Bu. per Acre | Production | Value |
|---|---|---|---|---|
| 1900 | 1,598 | 15.0 | 23,970 | $ 14,172 |
| 1901 | 3,095 | 25.0 | 77,375 | 69,638 |
| 1902 | 3,714 | 22.0 | 81,708 | 58,830 |
| 1903 | 3,788 | 24.1 | 91,291 | 56,600 |
| 1904 | 3,902 | 22.2 | 86,624 | 58,904 |
| 1905 | 3,941 | 19.4 | 76,455 | 51,989 |
| 1906 | 3,980 | 23.4 | 93,132 | 60,536 |
| 1907 | 4,000 | 22.5 | 90,000 | 61,000 |
| 1908 | 4,000 | 23.4 | 94,000 | 85,000 |
| 1909 | 5,000 | 35.0 | 175,000 | 150,000 |
| 1910 | 8,000 | 23.0 | 184,000 | 175,000 |
| 1911 | 20,000 | 26.5 | 530,000 | 424,000 |
| 1912 | 24,000 | 25.5 | 612,000 | 428,000 |
| 1913 | 28,000 | 31.5 | 882,000 | 679,000 |
| 1914 | 50,000 | 28.0 | 1,400,000 | 1,064,000 |
| 1915 | 70,000 | 28.0 | 1,960,000 | 1,352,000 |
| 1916 | 74,000 | 25.0 | 1,850,000 | 1,720,000 |

**Potatoes Known Everywhere.**

Montana potatoes have a world-wide reputation. This state is the home of the "Great Big Potato", which, when baked, becomes such an important part in the menu of the dining cars of one of the country's most progressive transcontinental railways. The potato-growing industry is fostered by the presence within the state of heavy market demands and this industry has kept step with the development of the state, until at the present time an average of about 5,000,000 bushels of potatoes is grown in Montana every year. The following is the seventeen-year potato record:

| Year | Acres | Bu. per Acre | Production | Value |
|---|---|---|---|---|
| 1900 | 4,781 | 134 | 640,654 | $ 339,547 |
| 1901 | ..... | ..... | ..... | ..... |
| 1902 | 11,521 | 153 | 1,762,713 | 881,356 |
| 1903 | 12,904 | 176 | 2,271,104 | 999,286 |
| 1904 | 13,162 | 143 | 1,882,166 | 1,148,121 |
| 1905 | 13,668 | 120 | 1,642,560 | 969,110 |
| 1906 | 14,099 | 152 | 2,143,048 | 1,307,259 |
| 1907 | 18,000 | 150 | 2,700,000 | 1,350,000 |
| 1908 | 20,000 | 138 | 2,760,000 | 1,932,000 |
| 1909 | 25,000 | 180 | 4,500,000 | 2,295,000 |
| 1910 | 25,000 | 120 | 3,000,000 | 2,550,000 |
| 1911 | 27,000 | 150 | 4,050,000 | 2,997,000 |
| 1912 | 37,000 | 165 | 6,105,000 | 2,442,000 |
| 1913 | 36,000 | 140 | 5,040,000 | 3,377,000 |
| 1914 | 37,000 | 140 | 5,180,000 | 3,315,000 |
| 1915 | 39,000 | 155 | 6,045,000 | 3,022,000 |
| 1916 | 39,000 | 125 | 4,875,000 | 5,850,000 |



Wheat Field in Lower Flathead Valley, Missoula County

Digitized by Google

# Irrigation of Montana Lands

## Millions of Dollars Are Being Spent by U. S. Reclamation Service and by Private Companies to Water Fertile Acres of State---Marvelous Yields

FROM THE earliest days of what is now Montana, irrigation has been practiced. The settlers who began farming to supply the mining camps with foodstuffs worked along the streams in the valleys of the mountain districts and in the Gallatin valley, found they could produce by intensive methods larger crops of grain and vegetables than they could on fields which were dependent upon rainfall alone. There were years when it was not necessary to use the irrigating ditches to any considerable extent, but the system was a guarantee of crops. This was before the day of the development of the dry farming method.

Montana, under the Federal Reclamation Act, passed fifteen years ago as well as under the Carey Land Act, has seen marvelous development in irrigation.

Nearly 1,000,000 acres of land will be placed under ditch by the government reclamation projects when present plans are completed. The government has built or has under construction at this time, seven projects, three of which are being built in co-operation with the U. S. Indian department. The irrigable areas of the first four are:

Huntley project, 32,905. Lower Yellowstone, 60,116. Milk River including the St. Mary's storage dams, 220,000. Sun River, 174,022.

The Huntley project has been practically finished to take care of the entire acreage—the others are in various advanced stages and the water is being delivered on all projects, but they are incomplete as regards ultimate development. The same may be said of the three projects, arranged in co-operation with the Indian department. The irrigable areas of these three are:

Blackfeet, 122,500. Flathead, 152,000. Fort Peck, 152,000. The Flathead project is the more advanced with respect to acreage for which water is ready, the Blackfeet next and Fort Peck third.

The estimated cost of these seven projects is $35,098,079 and there has been expended on them up to the present, $15,676,202.

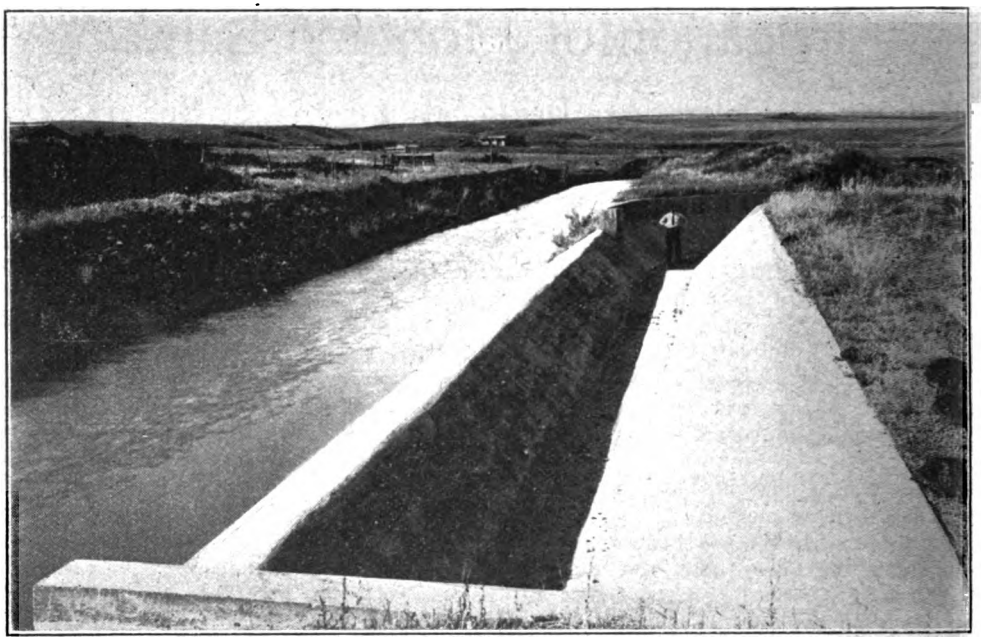
In connection with the Milk River reclamation project, is the Sherburne lake reservoir dam on the Blackfeet Indian reservation in Glacier National Park, 12 miles south of the Canadian boundary and 45 miles northeast of Browning, the nearest station on the Great Northern railway. The reservoir will store 75,000 acre-feet of water to be used for irrigation of lands in Phillips and Valley counties and will be transported through the St. Mary's canal from the Hudson Bay drainage to the Milk River. The dam will be 83 feet high and 900 feet long.

### Milk River Project.

This project contemplates the reclamation of about 220,000 acres of land in Milk River Valley located between Chinook and Nashua in Blaine, Phillips and Valley counties. The lands are to be irrigated by means of a succession of three dams located near Chinook, Dodson, and Vandalia, respectively, diverting water from Milk River into canals located along the foothills on either side of the valley.

The natural flow of the Milk River is supplemented by water stored on St.

Digitized by Google



On the Lower Yellowstone Reclamation Project

Mary River in the edge of Glacier Park and diverted from that river into the Milk River. Storage is also provided at Nelson Reservoir, located in a natural basin between Malta and Saco. This reservoir is fed through the Dodson South Canal, 44 miles long, heading at Dodson Dam, and serves lands in the vicinity of Saco and Hinsdale, as well as to augment the natural flow of the river at Vandalia Dam.

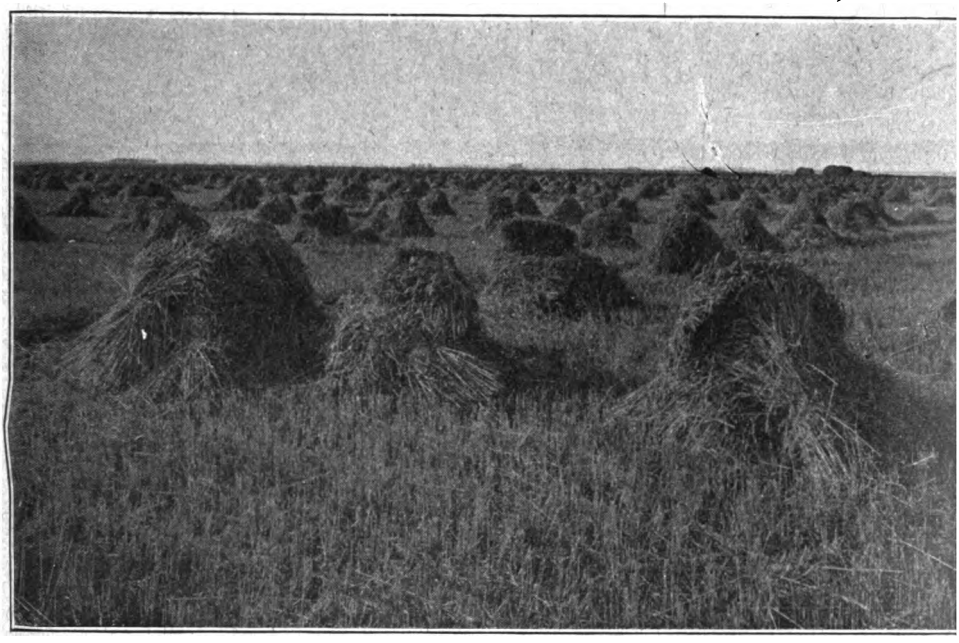
The Great Northern Railway traverses the entire irrigable area for a distance of 160 miles, with stations at intervals of about six miles, the principal towns being Chinook, Harlem, Dodson, Malta, Saco, Hinsdale, and Glasgow.

The average elevation of the irrigable area is 2,200 feet above sea-level, and the temperature ranges from 50 degrees below to 105 above zero. The average annual rainfall is 14 inches. The soil is sandy loam, clay loam, and some gumbo. The principal markets are Minneapolis and St. Paul, Minn., Great Falls, Montana, Pacific Coast points and local.

The principal crops grown are small grains, alfalfa, native blue-joint hay, and vegetables. The value of crops raised in 1916 on 4,600 acres of land irrigated from government canals amounted to $70,000 or $15.25 per acre. Present indications are that yields of 1917 crops will be somewhat lower per acre, but the acreage irrigated increased to about 11,000.

At the present time construction has reached the point where about 50,000 acres of land are under canals constructed by the Reclamation Service. Vandalia diversion dam is completed and Dodson diversion dam is completed except movable crest. First development of Nelson Reservoir is completed. Canal systems on both sides of the river from Dodson Dam to several miles east of Malta, and on the South side of the river from Vandalia Dam to Nashua are in operation. Canal system on the south side of the river from Nelson Reservoir in the vicinity of Saco and Hinsdale is well under way and will be in operation in 1918. The total expendi-

Digitized by Google



Grain in Shock in the Gallatin Valley, Under Irrigation

tures to June 30, 1917, were $2,983,662.55, and the estimated total cost of the pr ject is $5,886,700.00.

## Lower Yellowstone Project.

The Lower Yellowstone Project includes 60,116 acres of land in the centra eastern part of Montana and central-western part of North Dakota. Of this ar 42,782 acres can be irrigated from completed canals supplied from the Yellowsto River.

The annual precipitation is about 15 inches, a greater part of which falls May and June. Cyclones and tornadoes are unknown. The air is dry and pure; an due to the lack of humidity, extremes of either heat or cold are not severely fe The average elevation of irrigable lands is about 1900 feet above sea level.

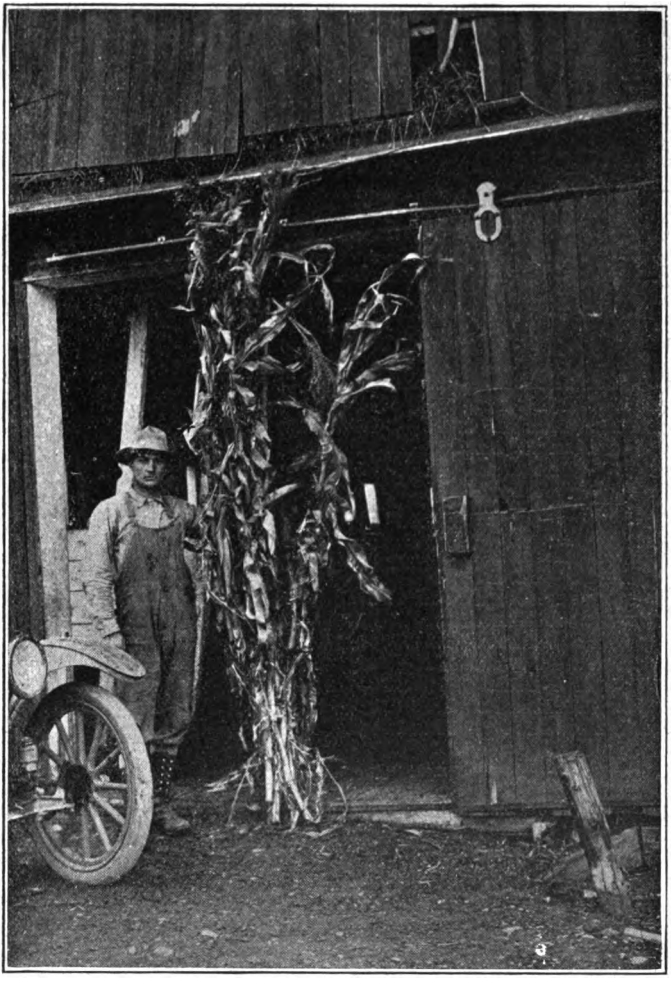
Wheat, oats, and barley have always been the principal crops. However, tho practicing diversified farming are the most prosperous; and the project is bei rapidly seeded to alfalfa, about 8,000 acres being in this crop. Sugar beets yie well, and about 300 acres were seeded to this crop this spring. Potatoes and co also give good returns, and the acreage in these crops is increasing each year. T value of irrigated crops per acre cropped in 1916 was $20.70.

The area irrigated in 1917 was 15,700 acres, which is the largest acreage sin the opening of the project, in 1909. The precipitation is generally sufficient to gr a profitable grain crop. However, this season has been very dry, and only t irrigated crops on the project will yield sufficient to pay the cost of production.

The main canal is completed for 66.3 miles; and the total length of cana laterals, and drains is 254.6 miles. There are 1,853 structures on the project e clusive of the dam, 700 feet long across the Yellowstone River. 7,041,963 cub yards of material was excavated, and 30,608 barrels of cement used.

The total net expenditure to June 30, 1917, is $3,251,330.83, and the estimat total cost of the project is $3,332,751.65.

Digitized by Google



Who Says Montana Does Not Produce Corn?

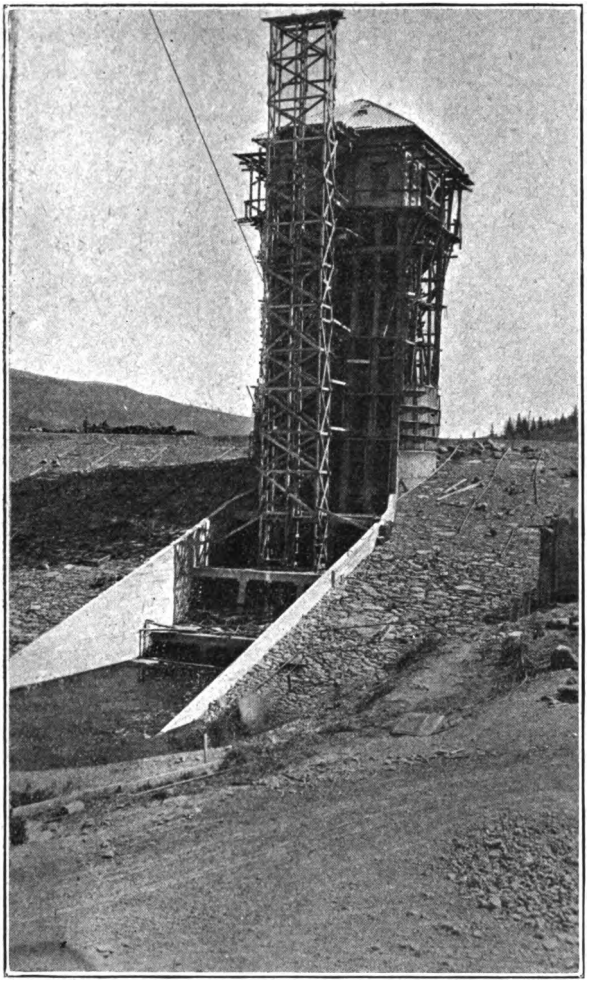
## Huntley Project.

One of the oldest and at the same time most successful projects in Montana is the Huntley, located in Yellowstone county. The project includes 32,905 acres the area for which irrigation works have been completed, embracing the entire amount with the exception of 634 acres. During the present year about 20,000 acres were irrigated.

The land is intensively cultivated and the character of the soil ranges from heavy clay to light sandy loam. The average elevation of irrigable land is 3,000 feet above sea level and the rainfall on the area for ten years averages near 14 inches.

Two railroads serve it, the Northern Pacific and the Burlington. The project has seven railway stations, Huntley, Osborn, Worden, Newton, Pompey's Pillar, Bull Mountain, Ballantine and Anita.

Digitized by Google



Outlet Structure and Gate Tower, Sherburne Lakes Reservoir Dam, on the Government Project in Teton County

The length of the irrigation season is from May 1 to September 30, 153 days, and the farmers have as markets, Billings in Montana, St. Paul, Minneapolis, Denver, Kansas City and Seattle.

It is estimated that there were 19,528 acres of land in crop this year, consisting of 8809 acres of alfalfa and other hay; 7066 acres of cereals, including wheat and oats; 158 acres of potatoes; 3289 acres of sugar beets and 206 acres of other vegetables. The crop for the season was not quite so good as for some of the previous years due to the backward spring which was unfavorable for the germination of seed.

The gross value of crops grown on the Huntley project for 1916 amounted to $489,071, an average of $26.32 an acre of crop land. The average this year will be much higher.

Digitized by Google

Irrigated Potatoes, a Valuable Crop in Montana

## Sun River Project.

Including an estimated irrigable area of 174,022 acres, of which 16,244 acres have been brought under ditch, the Sun River project, next to the Milk River, is the largest in Montana.

It is located in the counties of Cascade, Chouteau, Lewis & Clark and Teton and the source of its water supply is the Sun River and tributaries, Deep Creek, Bowl Creek and Basin Creek. The Sun River drains all but 284 square miles out of a total drainage area of 1354 square miles. The three creeks named take care of the 284 square miles.

The average elevation of the irrigable area is 3,700 feet above sea level and the average rainfall for a period of 29 years 11.7 inches annually. The soil is sandy loam, clay, adobe and alluvium. The principal products are, hay, vegetables, grain and livestock. Two railroads, the Great Northern and the Milwaukee serve the district embraced within the project and the principal markets are Great Falls, Seattle, St. Paul, Minneapolis and Chicago.

Work on the project began in 1906 and two years later the Fort Shaw main canal was completed. Irrigation began the following year, when the Fort Shaw unit was finished. Two large dams, the Willow creek and the Sun River Diversion dam have been completed, the latter early in 1915.

The irrigation plan of the Sun River project, so far approved, provides for the storage of water in the Sun River reservoir on the north fork of Sun River, in the Willow Creek reservoir on Willow Creek and in Pishkun reservoir north of Sun River. Possible future development may include diversion of waters from Bowl and Basin creeks, tributaries of the Flathead river across the continental divide.

Digitized by Google

The crops of 1916 were light but prices good. The demand for land and land values have both increased and farmers generally are making efforts to increase their holdings.

**Blackfeet Project.**

The Blackfeet Project, located in the south-eastern part of the Blackfeet Indian Reservation, is being constructed by the Reclamation Service in co-operation with the Indian Service, to irrigate about 122,000 acres of land when it is completed. Four units have now been constructed: the Two Medicine unit, diverting water from the Two Medicine River to water land adjacent to the G. N. Ry. west of the town of Cut Bank. A lateral system to cover 24,000 acres of land is now constructed under the unit. The Piegan system diverting water from Badger Creek to about 3,000 acres of land in the vicinity of Piegan. This system is complete except some minor structures and extensions. The Badger-Fisher unit diverting water from Badger Creek through the Four Horns Supply Canal, Four Horns Reservoir and the Fisher Canal, to land on Fisher flat. A lateral system has been completed, except for minor structures, to irrigate about 18,000 acres under this system; and the Birch Creek unit diverting water from Birch Creek to about 2600 acres on the southern part of the reservation. This system is complete except for minor structures and extensions. The lands to which irrigation works are constructed are Indian allotments and are being irrigated by Indians or white renters.

The climate on the project is such that hay, grain and hardy vegetables can be successfully raised and they all yield well where properly irrigated. Crops to the value of about $25,000.00 were raised in 1916 and about 2500 acres are being irrigatetd in 1917. The total expenditures to June 30, 1917, were $996,032.99 and it is estimated that the project will cost $3,500,000.00 when completed.

**Flathead Project.**

The Flathead Project is located in counties of Missoula, Sanders and Flathead, comprising the former Indian reservation of that name. The location is on the Pacific slope on the drainage areas of the Flathead and Jocko rivers. The average elevation is 3000 feet above sea level. The average rainfall at St. Ignatius is 18.37 inches, which is above the average for the project. The soil varies from sandy and ashy to havy clay. All crops maturing in the northern latitudes can be raised.

The leading crops have been wheat, oats, hay and potatoes. Fruits and garden vegetables are raised successfully. Sugar beets are being grown for the first time during 1917. This crop is expected to prove a success and add to the land values. Conditions are favorable for stock raising. Cattle and hogs have been raised in numbers but the feeding on extended scale has never been undertaken. During 1917 the Reclamation Service was prepared to water about 75,000 acres. The area actually irrigated was 15,000 acres. On an average over the project the duty of water amounts to about 1.5 acre-feet per acre. The rental charge is fixed at fifty cents per acre-foot. Water is delivered between May 1st and September 30th. All homestead land has been entered, State land and certain Indian lands are leased. Ready sale occurs when these lands are offered. The ultimate area to be placed under water is 150,000 acres. The total expenditure on the project to June 30, 1917 is $2,460,000. A large expenditure will be required to complete the necessary storage reservoirs now under way and contemplated.

**Fort Peck Project.**

The Fort Peck project is located in the northeastern part of the State of Montana. The irrigable area lies in the Missouri River Valley and in the Valleys of Poplar and Big Muddy Creeks. The soil is rich and produces excellent crops

Digitized by Google

with irrigation. The average rainfall has been 13.68 inches for the past 31 years. The winters are severe with a minimum temperature of 40 degrees below zero for short periods, while the summers are warm with a maximum tetmperature of 105, which is conductive to excellent plant growth.

The irrigation works planned for this project contemplate the irrigation of 152,000 acres. Irrigation canals have been completed to over 16,000 acres, and work is in progress to further increase this area. During the year 1917, about 2,000 acres will be irrigated. The total expenditure to date is about $550,000, and the estimated cost of the project is $5,500,000.00.

At present, the irrigable land is withdrawn from entry. When the irrigation works are completed, the total cost per acre will be announced and the land opened to entry by public notice from the Secretary of the Interior. A considerable number of the Indians are receiving patent in fee to their irrigable allotments and they are being disposed of at prices ranging from $30 to $40 per acre, the purchaser assuming the payment of the construction of the irrigation works. By the Act of May 18, 1916, Congress fixed the method of payment on a twenty year period with the maximum payment of seven per centum of the total costs assessed against the land.

The following table gives a summary of the federal irrigation projects in Montana:

**Reclamation Projects in Montana.**

| PROJECT | Estimated Total Irrigable Area | Area for Which Irrigation Works Have Been Completed | Area Irrigated Season 1917 | Total Expenditures to June 30 1917 | Estimated Total Cost of Project |
|---|---|---|---|---|---|
| | Acres | Acres | Acres | | |
| Huntley | 32,905 | 32,271 | 19,528 | $ 1,578,425 | $ 1,838,617 |
| Lower Yellowstone | 60,116 | 42,782 | 15,700 | 3,251,331 | 3,332,752 |
| Milk River | 220,000 | 50,000 | 11,000 | 2,983,663 | 5,886,700 |
| Sun River | 174,022 | 16,244 | 12,187 | 3,456,750 | 8,250,000 |
| Totals | 487,043 | 141,297 | 58,485 | $11,270,169 | $19,308,069 |

**Indian Service Projects in Montana.**

| | | | | | |
|---|---|---|---|---|---|
| Blackfeet | 122,500 | 47,000 | 2,500 | $ 996,033 | $ 3,500,000 |
| Flathead | 152,000 | 75,000 | 15,000 | 2,460,000 | 6,790,010 |
| Fort Peck | 152,000 | 16,620 | 2,000 | 550,000 | 5,500,000 |
| Totals | 426,500 | 138,620 | 19,500 | $ 4,006,033 | $15,790,010 |

**State Carey Act Land Projects.**

In addition to the federal government reclamation projects, there are six Carey Land Act projects in Montana, having an aggregate acreage of 173,257. The lands are disposed of by the state and the projects are built and land reclaimed under the supervision of the state Carey Land Act Board.

Immediately upon the approval of the State's application by the Secretary of the Interior of the segregation, under the Carey Act, the State enters into a contract with the promoting company for the reclamation and settlement of the lands. Plans and specifications regarding the construction of the irrigation system must be submitted to the State Engineer and Carey Land Act Board for their approval. The contractor gives a bond for the faithful performance of the contract, which specifies the price, terms, and conditions under which water rights, and eventually the canal system, will be turned over to settlers.

Every citizen of the United States is entitled to file upon Carey Act land to the extent of 160 acres, regardless of whether or not he has exhausted his rights under the general land laws. The settler must enter into a contract with the

Digitized by Google

contracting company for his water rights at the time he makes his application for the land, and his application and contract are then submitted to the Carey Land Act Board for approval. If the application is allowed, the State issues him a certificate of location which serves him in lieu of title until final proof is made and patent received from the state. The water rights are paid for in installments covering a period of 10 to 14 years and the unpaid installments are a lien against the land. The settler also has the privilege of making deferred payments before their due date, with a proper rebate of interest, or of paying the entire purchase price of shares in cash at the time of purchase.

### Valier Project.

The largest of the projects is the Valier and includes about 88,000 acres, of which about 47,000 have been sold or filed upon. Practically all of this is susceptible of irrigation. There remains about 36,000 acres of land open to entry. The project is located in Teton county. The altitude is between 2400 and 3900 feet above sea level. The land lies in a gently rolling prairie country, clear of brush and trees and the soil varies from a deep sandy loam to a light sandy loam, heavy clay, and in the southwest corner, it is gravelly. The source of the water is Birch creek, supplemented by the waters of Dupuyer creek. The Birch Creek reservoir has been in use three years and is equipped by a dam which has withstood record-breaking floods. The total estimated cost of the project is $4,060,946 and nearly $4,000,000 has been expended. The land yields great crops and the settlers are among the most prosperous in Montana. The price of water right per acre is $40.

Next in size is the Teton project, which is situated between the Valier project and the Sun River project of the U. S. Reclamation Service. It comprises 34,206 acres and the topographical conditions and soil are practically the same as those of the Valier project. The altitude is 4100 feet above sea level. The waters are obtained from the Teton river and the Blackleaf and Muddy creeks. It is planned to irrigate about 30,000 acres. Some $400,000 have been spent on the work to date.

The Little Missouri project is third in size as to acreage, having about 20,000. It is located in the southeastern corner of the state in what is now known as Carter county. The altitude is 3,000 feet and the land is comparatively level. The soil is heavy clay and loam. The source of water supply is the Little Missouri and Cottonwood creek. The entire 20,000 acres are susceptible of irrigation. About 6,000 acres of this amount are privately owned, the balance open for entry or purchase. The project is estimated to cost $250,000 and between $75,000 and $85,000 have been expended. The land is fertile and yields heavy crops of cereals and vegetables and hay. The company plans to have the project finished by the latter part of 1918.

### Where Sugar Beets Thrive.

The Billings project, known locally as the "Billings Bench" is in Yellowstone county and lies northeast of the city of Billings. It includes within its boundaries about 34,000 acres of which 26,000 acres are to be brought under ditch. The altitude is sandy and clay loam and the altitude is about 3,000 feet. The property is bench land, crossed by five creeks, and is generally smooth, sloping north and east. The Yellowstone river is the source of water supply. The total estimated cost of the project is $450,000 and to date about $500,000 have been expended. The land under ditch is in a high state of cultivation and large crops of wheat, oats, sugar beets and potatoes are raised.

The land embraced in the Big Timber project aggregates nearly 12,000 acres, most of which is under ditch. The project has been practically completed and is in a flourishing condition as it has an abundance of good water, a system of

Digitized by Google

reservoirs and ditches constructed so solidly as to avoid chances of inability to deliver water when required. The state has 7,356 acres and the settlers about 3,300 acres.

Flatwillow project lies in Fergus county and includes about 7,800 acres. The land is level to undulating, the soil a sandy loam mixed with clay. The altitude is 3,000 feet. The source of water is Flatwillow creek. About $30,000 has been spent on the project which is to be completed, according to present plans, in 1918.

---

### Irrigation System in Favor.

Contrary to the experience of some of the western states with regard to Carey Land Act projects, Montana people have been satisfied with their administration so far and the company's operating them have handled their affairs in such a way that water is furnished at a reasonable price per acre.

Irrigation is coming into favor as its benefits are coming to be more generally understood among the farming population.

The dry land system of farming brings adequate returns as a rule and the expense of irrigation plants has been avoided. But it has been discovered that on "off years" the farmer who has at his command a sufficient supply of water to moisten his ground at a critical time, has an advantage. Whether he only has to use irrigating ditches once in ten years, the availability of water acts as crop insurance and adds greatly to the value of his property. And in the years that water is needed he is assured of his customary yield of grain, hay and vegetables.

A Watermelon Patch "Somewhere in Montana"

Digitized by Google

# The Livestock Industry

## With the Free Public Ranges of the Past Gone, Montana Farmers Turn With Profit to the Raising of High Grade Animals

THE TRANSITION of the livestock industry in Montana has opened an unusual opportunity for the Montana farmer to engage in stockraising on a comparatively small scale and at most excellent profit. Montana has always been and will always be a great producer of livestock. Natural conditions foster the industry. Even in the days when the Indian still disputed the white man's supremacy, great herds of Texas "longhorns" were driven northward with the spring to fatten during the summer months upon the luxurious grasses of the Montana plains. Later came the bonanza stockmen, who ammassed fortunes as their herds increased and multiplied throughout the grazing empires of the eastern part of the state. The cattle kings of the early days were a wasteful lot; their losses, due to lack of care and the activities of the "rustlers", were enormous, but so wide were the margins of profit that these losses usually went unnoticed as trainload after trainload of range grown cattle were sent to an eager market.

The coming of the farmer, however, brought the inevitable change to the livestock industry. The free public range has gone, never more to return, and with it is going the vast herds of range stock. Today, in place of the few stockmen with countless herds of cattle, Montana has almost countless stockmen-farmers, with their small, well cared for herds of high grade stock.

### Small Stockmen Numerous.

No industry in the state has undergone such a radical change as has the livestock industry, and yet so thoroughly has the small stockman succeeded his larger predecessor that Montana has continued to annually supply the eastern markets with its great quota of beef cattle. The production of the open range reached its maximum in 1894, when more than 300,000 head of beef were shipped to market from this state. This, however, was an abnormal year, and the average shipments from the state, over a period of more than twenty years, ran from 200,000 to 225,000 head. The low water mark in cattle shipments was reached in 1914, when but 158,000 head were shipped. Since that time, shipments have shown a rapid increase and in 1916 more than 227,000 head of cattle, valued at more than $20,000,000, were sent to market, while the rapidly increasing local consumption was also supplied.

### Passing of Public Range.

The passing of the public range and the necessity for better care of livestock naturally resulted in more attention being paid to the class of animals being raised, so that splendid herds of pure bred stock are now scattered all over the state, while the general grade of all animals has been improved. This is strikingly shown by a comparison of the value of the beef cattle in the state at the present time and at the time when the range cattle predominated. For instance, in 1904 there were 1,048,455 head of beef cattle in Montana, of a total

Digitized by Google

value of $19,314,000, while in 1907 there were but 983,000 head of beef cattle in Montana, but their total value was $52,197,000.

Nothing is better indicative of the permanancy of the farming industry in Montana and its increasing prosperity than the number of farmers who are going into stockraising on a small scale. While there is yet some open range, it is much restricted and rapidly growing smaller. The national forests, however, of which there are almost 20,000 acres, offer much grazing ground, and on these lands the small farmer is given preference. Winter feeding is now the invariable rule. It has been demonstrated that it is highly profitable for the farmer to feed as many head of livestock upon his farm as practicable, and into every section of the state fine breeding stock has been imported for the betterment of farm herds.

## Industry in Healthy Condition.

The following table, showing the number and value of beef cattle in Montana by years, aptly illustrates the change which has come over the livestock industry of the state and its present healthy condition:

| Year | No. of Head | Value |
|---|---|---|
| 1902 | 1,048,559 | $28,560,233 |
| 1903 | 1,059,045 | 20,563,797 |
| 1904 | 1,048,455 | 19,314,006 |
| 1905 | 964,579 | 17,352,775 |
| 1906 | 916,350 | 18,134,570 |
| 1907 | 879,000 | 17,580,000 |
| 1908 | 905,000 | 19,910,000 |
| 1909 | 842,000 | 23,071,000 |
| 1910 | 865,620 | 24,067,032 |
| 1911 | 813,000 | 22,439,000 |
| 1912 | 732,000 | 21,814,000 |
| 1913 | 717,000 | 27,533,000 |
| 1914 | 753,000 | 34,939,000 |
| 1915 | 791,000 | 38,759,000 |
| 1916 | 894,000 | 45,058,000 |
| 1917 | 983,000 | 52,197,000 |

## Beef Cattle Shipments.

The following table, showing the number of head of Montana beef cattle shipped to markets out of the state during the years noted, will give some idea of the extent of Montana's contributions to the world's meat supply:

| Year | No. of Head | Year | No. of Head |
|---|---|---|---|
| 1885 | 70,089 | 1901 | 151,986 |
| 1886 | 119,620 | 1902 | 230,000 |
| 1887 | 82,134 | 1903 | 210,573 |
| 1888 | 167,602 | 1904 | 288,775 |
| 1889 | 123,880 | 1905 | 267,966 |
| 1890 | 174,035 | 1906 | 276,722 |
| 1891 | 250,000 | 1907 | 214,642 |
| 1892 | 203,000 | 1908 | 241,320 |
| 1893 | 279,158 | 1909 | 255,178 |
| 1894 | 302,655 | 1910 | 243,662 |
| 1895 | 206,460 | 1911 | 205,873 |
| 1896 | 254,864 | 1912 | 188,675 |
| 1897 | 252,162 | 1913 | 180,000 |
| 1898 | 232,225 | 1914 | 158,623 |
| 1899 | 203,499 | 1915 | 173,936 |
| 1900 | 160,055 | 1916 | 227,828 |

## Horse Market of World.

Horse-raising is a very important industry in Montana. The old time range horse—the "cayuse" of former days—has given way to a large extent to full blooded stock, with a preponderance of heavy draft animals. A few years ago the

Digitized by Google

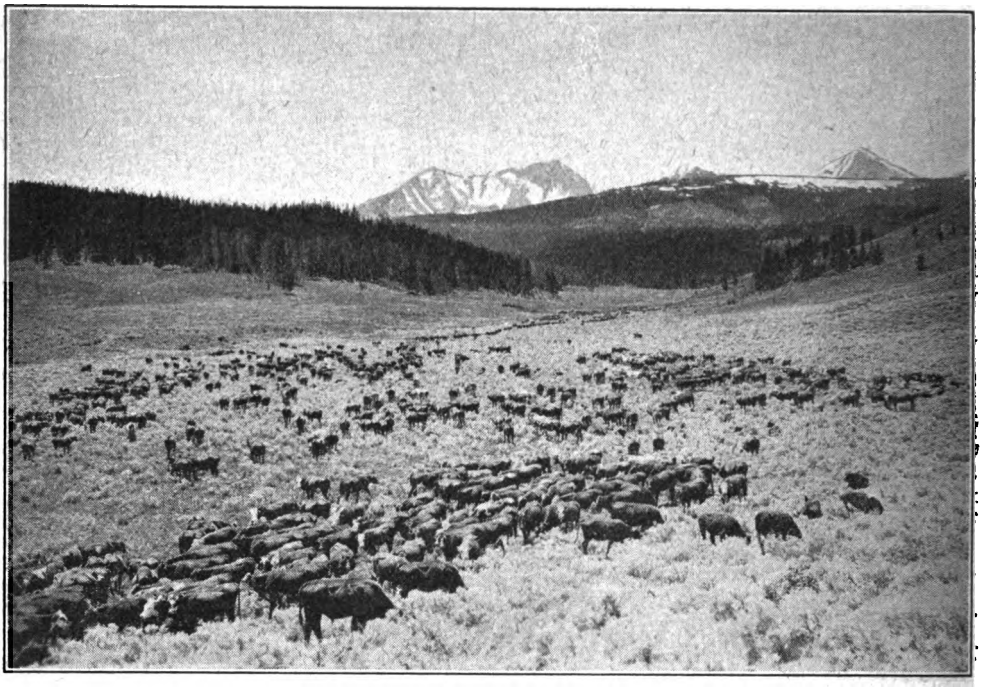
Cattle in Winter Quarters at Ranch

United States war department established at Miles City the largest remount station in the United States and co-incident with this, Miles City has developed into the largest primary horse market in the world. Here very successful auction sales are held every month, and every kind of horse-flesh, from full blooded running and driving animals to the heaviest of draft horses, are bought for shipment to every section of the country and abroad. The stockyards at Miles City embrace 50 acres and in 1915 more than 29,000 head of the strong, hardy, full-sized horses for which Montana is noted, were sold to buyers from foreign lands and to buyers from many parts of the United States.

Despite the thousands of head of Montana horses which have been exported in recent years, the breeding industry has been able to keep pace with the demand, both of the outside and the rapidly increasing local market. The following table shows by years the number and value of horses upon the farms and ranges of Montana:

| Year | Number of Head On Farm and Range | Value |
|---|---|---|
| 1902 | 246,570 | $ 7,251,264 |
| 1903 | 244,104 | 8,988,890 |
| 1904 | 236,781 | 9,084,698 |
| 1905 | 239,149 | 10,352,765 |
| 1906 | 291,970 | 18,379,534 |
| 1907 | 292,000 | 21,316,000 |
| 1908 | 304,000 | 19,760,000 |
| 1909 | 319,000 | 25,520,000 |
| 1910 | 315,956 | 27,115,764 |
| 1911 | 344,000 | 29,928,000 |
| 1912 | 347,000 | 30,189,000 |
| 1913 | 354,000 | 32,922,000 |
| 1914 | 372,000 | 37,944,000 |
| 1915 | 391,000 | 33,626,000 |
| 1916 | 430,000 | 36,980,000 |
| 1917 | 452,000 | 41,584,000 |

Digitized by Google



Where Cattle Raising Still Thrives

## Mules on the Farm.

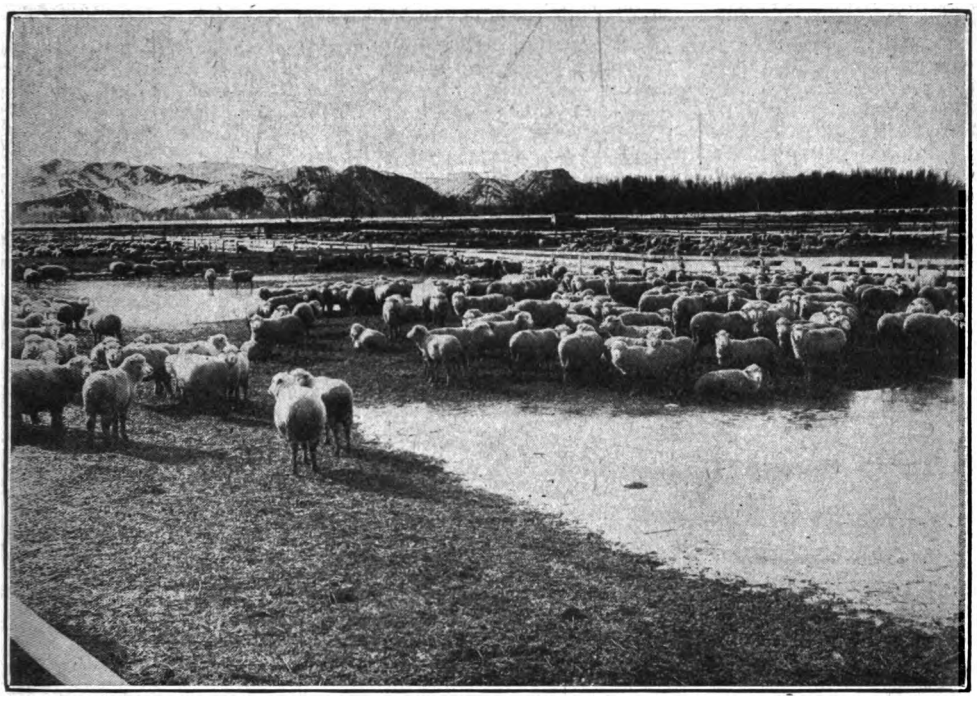
The following table shows the number and value of the mules upon the farms of Montana:

| Year | Number of Head On Farm and Range | Value |
|---|---|---|
| 1902 | 3,424 | $131,784 |
| 1903 | 3,390 | 161,552 |
| 1904 | 3,424 | 195,754 |
| 1905 | 3,561 | 237,526 |
| 1906 | 3,917 | 314,939 |
| 1907 | 4,000 | 328,000 |
| 1908 | 5,000 | 415,000 |
| 1909 | 5,000 | 510,000 |
| 1910 | 4,174 | 445,278 |
| 1911 | 4,000 | 428,000 |
| 1912 | 4,000 | 364,000 |
| 1913 | 4,000 | 436,000 |
| 1914 | 4,000 | 424,000 |
| 1915 | 4,000 | 392,000 |
| 1916 | 4,000 | 392,000 |
| 1917 | 4,000 | 428,000 |

## Swine Raising.

Montana farmers have found much money in hog-raising, with the result that where a few years ago all pork products were imported into the state now many trainloads of swine are sent out of the state to both eastern and western markets. In normal times many farmers find it more profitable to feed their grain on the farm and market it in the form of pork than to sell it direct, and this has resulted

Digitized by Google



Sheep in Alfalfa Feeding Grounds

in the rapid development of the swine-growing industry. The recent extraordinarily high prices of grain, however, has served to temporarily discourage the growing of this class of stock, this accounting for the falling off in the number of hogs in the state in the present year. With the readjustment of prices, which is certain to come with the return of normal conditions, there is little doubt that swine will continue to contribute an increasingly large proportion to the farmer's liberal income.

The following table shows the number and value of swine in Montana during the years noted:

| Year | Number of Head On Farms | Value |
|---|---|---|
| 1902 | 51,745 | $ 560,916 |
| 1903 | 54,850 | 496,941 |
| 1904 | 57,592 | 467,071 |
| 1905 | 59,896 | 512,111 |
| 1906 | 62,891 | 578,597 |
| 1907 | 66,000 | 660,000 |
| 1908 | 68,000 | 680,000 |
| 1909 | 75,000 | 758,000 |
| 1910 | 99,261 | 858,000 |
| 1911 | 124,000 | 1,290,000 |
| 1912 | 143,000 | 1,416,000 |
| 1913 | 153,000 | 1,821,000 |
| 1914 | 184,000 | 2,190,000 |
| 1915 | 276,000 | 2,981,000 |
| 1916 | 298,000 | 2,682,000 |
| 1917 | 269,000 | 3,228,000 |

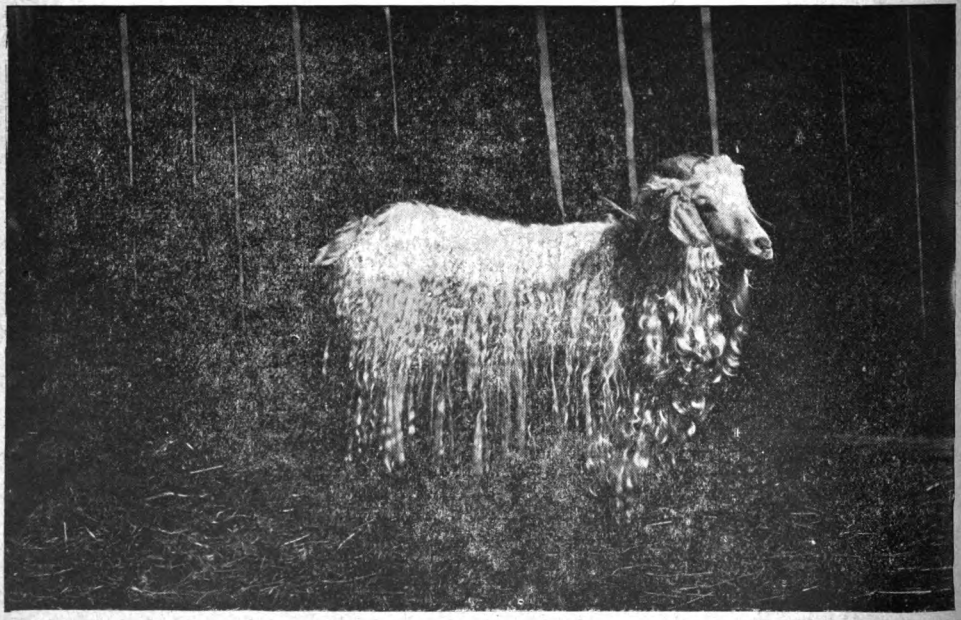
Digitized by Google

## Production of Wool.

Montana has long been the leading wool producing state of the union, and at the present time, despite the rapid reduction of the public range, due to the influx of farmers, this state ranks second among the states of the union in the number of pounds of wool produced. In this connection, it is interesting to note that Montana wools command the highest prices on the Boston market, scoured wool from this state selling in 1916 at an average of 86 cents per pound as against 85 cents for neighboring states and 82 for some of the southeastern wool growing sections.

The wool industry is undergoing the same change as the cattle industry. Farmers have taken much of the range over which at one time almost 6,000,000 sheep grazed, and the larger flocks are now restricted to private land holdings and to the sheep grazing areas of the national forests.

| Year | No. of Sheep Shearing Age | Average Weight of Fleece | Shrinkage Per Cent | Wool Washed and Unwashed | Wool Scoured |
|---|---|---|---|---|---|
| 1900 | 3,717,160 | 7.00 | 63 | 26,020,120 | 9,627,444 |
| 1901 | 4,526,517 | 6.75 | 63 | 30,553,990 | 11,304,976 |
| 1902 | 5,081,000 | 7.00 | 63 | 35,567,000 | 13,159,790 |
| 1903 | 5,100,000 | 6.00 | 63 | 30,600,000 | 11,322,000 |
| 1904 | 5,576,000 | 6.75 | 64 | 37,773,000 | 13,598,280 |
| 1905 | 5,200,000 | 7.25 | 66 | 37,700,000 | 12,818,000 |
| 1906 | 4,940,000 | 7.25 | 65 | 35,815,000 | 12,535,000 |
| 1907 | 4,600,000 | 6.70 | 63 | 30,820,000 | 11,403,400 |
| 1908 | 4,600,000 | 7.00 | 64 | 32,200,000 | 11,592,000 |
| 1909 | 5,000,000 | 7.00 | 63 | 35,000,000 | 13,300,000 |
| 1910 | 4,800,000 | 7.00 | 64 | 33,600,000 | 12,096,000 |
| 1911 | 4,650,000 | 7.50 | 64 | 34,875,000 | 12,903,750 |
| 1912 | 4,300,000 | 7.25 | 62 | 31,175,000 | 11,846,500 |
| 1913 | 4,200,000 | 7.50 | 63 | 31,500,000 | 11,655,000 |
| 1914 | 3,869,000 | 7.80 | 63 | 31,177,000 | 11,165,490 |
| 1915 | 3,725,000 | 7.7 | 62 | 28,682,000 | 10,899,160 |
| 1916 | 3,150,000 | 7.8 | 62 | 24,570,000 | 9,346,600 |



Breeding of High Class Angora Goats is a Montana Industry

Digitized by Google

# Possibilities in Dairying

## Cheap Land, Abundance of Feed, Good Market for Butter and Cheese Make Ideal Conditions for Profitable Industry

NO INDUSTRY in Montana has grown more rapidly and none offers greater opportunities to the small farmer than dairying. While creameries have been going up over the state rapidly, in the past few years, they have not been able to keep pace with the rapid influx of settlers and to supply the increased demand.

At present there are fifty-nine creameries and nine cheese factories in operation in Montana. There is a never failing market for dairy products—a market which can take care of a much greater supply than it receives at present.

As rapidly as dairying communities are developed to support them, dairies are being built.

The climate of this state is favorable to dairying. The winters are not severe to the extent that they interfere with the work and the summers are ideal. With cool evenings and an abundance of cool running water in various parts of the state, dairy products are much more easily handled than in the central west and the east.

Montana has long been noted as a hay producing state. Vast quantities of clover, alfalfa and other grasses are grown. With water for irrigation, pastures—one of the most essential items for the successful dairyman—are kept in good condition through the summer months and late in the fall. Alfalfa is now being raised in practically all sections of the state and dairymen have found, considering its small cost, this is a most valuable roughage feed. The number of flour and grist mills is rapidly increasing and the by-product of these, together with the by-products of the sugar factories, such as are used for the dairy cow, are much easier to obtain than formerly.

### A Growing Industry.

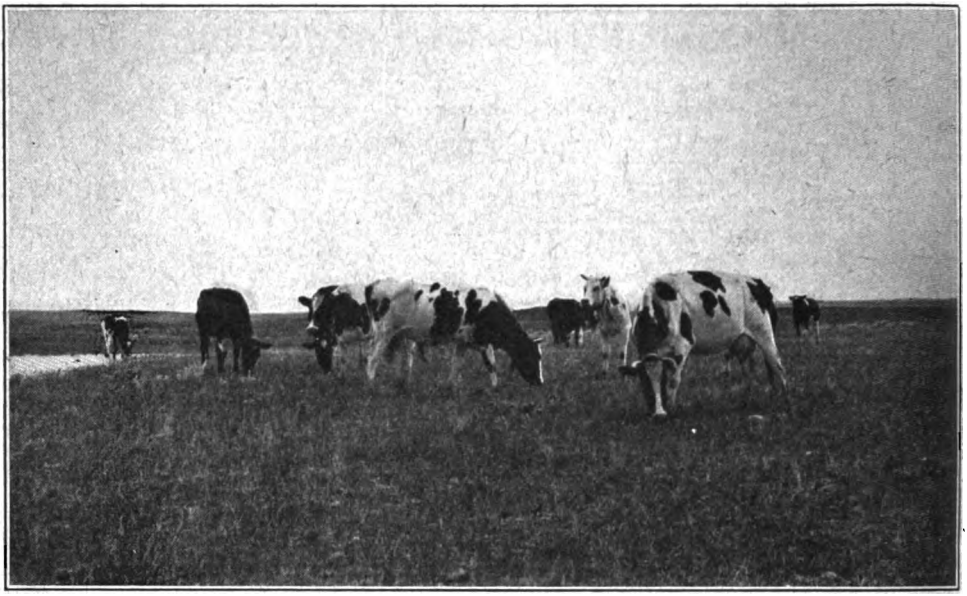
The older settled portions of the state, naturally, first built up dairying communities, hence the Bitter Root, the Flathead and Gallatin sections as well as Cascade county have the largest number of creameries and cheese factories. Nevertheless, creameries have been constructed in the central and eastern sections and dairying in some counties is becoming as important an industry as wheat raising.

Good marketing conditions prevail, shipments of cream being made from fifty to as high as 300 miles by railroad. The creameries are strongly competitive and as stated, the demand for cream and milk within the state, is at present greater than the supply. The rapidly increasing population of Montana and the fact that Oregon, Idaho, Wyoming and other neighboring states do not produce the dairy products consumed, it is easily understood why the markets are so well established. The creameries and cheese factories, operating in the state are able to sell their products at prices ranging from three to six cents above the eastern markets.

### Herds of Fine Stock.

The need for more and better dairy cows in Montana has been recognized during the past few years and several thousands of good cows, purchased in the east have been shipped into the state. These cows either come from tested herds or are tested here and placed on the accredited lists. Banks and business men are aiding the farmers to obtain the larger and better herds, with the result there

Digitized by Google



Hill County Head of Pure Bred Holsteins

are now in Montana many herds of dairy cattle which will compare favorably with the best dairying centers of the country.

Experts declare that Montana has one of the best dairy laws in the United States. Under its provisions the farmer is protected in the marketing of his products, as well as the consumer, who is assured of getting a clean supply of milk, cream, butter and cheese.

In this state the small creamery is protected under a law which prohibits unfair competition and discrimination in buying and selling, thus preventing the manipulation of prices by the larger concerns in order to put the smaller houses out of business.

## Superior Dairy Products.

Montana dairy products are the equal or superior of eastern manufacture, as has been repeatedly demonstrated at butter scoring contests, where Montana butter has been marked as much as two points above eastern scores.

This table showing the number and value of milch cows in Montana during the years 1902-1917 inclusive, is an indication of the rapid growth of the dairy industry in the state:

| Year | No. of Head | Value |
|---|---|---|
| 1902 | 52,380 | $ 2,101,486 |
| 1903 | 53,951 | 1,953,026 |
| 1904 | 55,030 | 1,809,455 |
| 1905 | 61,634 | 2,098,638 |
| 1906 | 65,948 | 2,308,180 |
| 1907 | 69,000 | 2,484,000 |
| 1908 | 75,000 | 3,300,000 |
| 1909 | 80,000 | 3,720,000 |
| 1910 | 77,527 | 3,407,090 |
| 1911 | 85,000 | 4,122,000 |
| 1912 | 91,000 | 4,495,000 |
| 1913 | 95,000 | 5,795,000 |
| 1914 | 104,000 | 7,332,000 |
| 1915 | 114,000 | 8,550,000 |
| 1916 | 129,000 | 9,998,000 |
| 1917 | 148,000 | 11,692,000 |

Digitized by Google

# Fruit Growing is Profitable

## In Districts Adapted for Horticulture, Orchardists Produce Prize Winning Fruits in Commercial Quantities--- Apples, Cherries and Small Fruit Thrive

WHILE Montana does not rank high among the western states in quality of commercial fruit produced there are several districts within the state where fruit growing is one of the leading agricultural lines. The Bitter Root and Missoula valleys extending for a distance of 75 miles due south from Missoula, contain the largest acreage of commercial orchards. Here is grown annually several hundred cars of exceptionally high quality apples which have attained a wide market acquaintance on account of this fine quality and appearance. The Bitter Root valley is known as "The Home of the McIntosh" for there is grown the largest tonnage of McIntosh in the west. Other sections in which fruit is grown commercially are the shores of Flathead Lake and tributary valleys, the Plains valley in Sanders country, parts of Carbon county and the Yellowstone valley. In other parts of the state orchards have been planted and in almost any district sufficient fruit can be grown for home use.

### McIntosh Red a Winner.

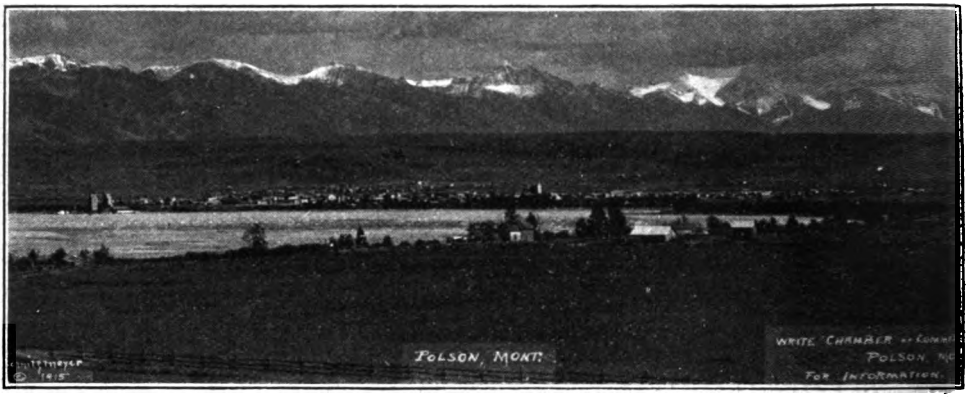
Many kinds of fruit have been successfully grown but apples constitute the main crop. However, most of the state has a relatively high altitude and it has been thoroughly demonstrated that in order to produce a profitable crop of apples the correct variety must be grown. Certain varieties have peculiar characteristics which make them acceptable for production in our altitude while others require a lower altitude and a longer season than is to be had in this state. The McIntosh is the best commercial apple for most of the fruit sections; it is an apple of high quality and one which readily makes for itself a name on any market where it is handled. It is in the right condition for eating from early to mid-winter. Probably 60 percent of all apples grown in the state are of this variety and no prospective orchardist can make a mistake when he sets an orchard of the "McIntosh Red". The Wealthy is a very hardy tree and is second in importance to the McIntosh. In our climate it attains good size, perfect color and has keeping quality which is not surpassed and is scarcely equaled by the Wealthy as grown in any other apple producing section of the country. The season for the Wealthy as grown here is very nearly the same as the McIntosh, although it is ready for eating at a little earlier date. Other varieties which have been planted and which are more or less successfully grown are Delicious, Gano, Rome Beauty, several varieties of summer apples and crabs.

### Cherries and Pears.

Up to this time pears have not been grown to any extent in large quantities but in certain favored localities there is unquestionably a good opportunity for the growing of this most excellent fruit. Within the state there is a market for a large production of pears and the consumers are willing to pay very satisfactory prices.

In the past the planting of sweet cherry orchards has received considerable attention, especially in the Bitter Root valley and along the shores of Flathead Lake. On account of the high altitude and relatively late spring these cherries mature at a season when the crop from other states has been entirely marketed,

Digitized by Google




Thriving Town in Rich Country on Flathead Lake

which fact has enabled the growers of Montana sweet cherries to receive a price very much in advance of that secured by the growers in the states west of us. However, it would not be wise for any one to make a planting of sweet cherries without first having made a thorough investigation of the location and peculiar conditions surrounding his tract of land for many trees during the last two winters have been badly injured by the severe cold. Sour cherries have been entirely satisfactory and the prices received have in the main been sufficient to give the growers a reasonable profit.

Plums and prunes succeed in all fruit sections and should be planted in all home orchards. The small fruits including blackberries, raspberries, currants, gooseberries and strawberries all do exceptionally well and should be more widly grown in order to supply the local demand.

**Profitable Business if Cared For.**

Fruit growing as it has come to be practiced in the northwest is a very specialized line of agriculture and requires a man of somewhat different temperament than general farming. It is impossible for any one to succeed in the commercial growing of fruit unless he is thoroughly in love with the work and desires to produce the greatest possible percentage of fancy and extra fancy fruit. To produce such a grade of fruit requires constant care and attention and it is very doubtful if any one can own a fruit farm and operate it at a profit unless he has his residence on the farm and takes a personal interest in every orchard operation.

A tree is a living organism and requires treatment as such. First it is necessary to have the right varieties and the right location with respect to the topography of the surrounding country; and second, the correct attitude toward the fruit business, which means that the man must love his fruit trees the same as a stockman loves his cattle. If the fruit grower maintains this attitude toward his fruit trees he will then give the proper study to such phases of orchard management as pruning, spraying, the maintenance of soil fertility, thinning, and at harvest time he will be willing to sort, grade and pack his product in such manner that it will bring him the highest price obtainable. Many men may be found in the state of Montana who have these qualifications and they have been successful in the orchard business. Those who have not been successful may attribute their failure to one of three things, unfavorable location, poor or unsuitable varieties, or to their poor adaptability to this particular phase of agriculture.

Digitized by Google

# Poultry Raising in Montana

## Climate, Abundance of Feed and Good Care Bring Big Returns on Poultry Products and Afford Opportunities for the New Settler

LIKE MANY industries in Montana, poultry is practically in its infancy. Until the organization of the State Poultry Association about a dozen years ago, there was but little attention paid to the raising of poultry and less to placing poultry products on the local markets. In truth at present the demands of the market far exceed the supply. Thus it is seen that Montana is the "land of opportunity" for poultry raisers and for new settlers who make poultry pave the way to competence.

The mild dry climate of Montana, a wealth of sunshine, pure mountain water and air—all are conducive to activity and health. Rugged health prevails in the poultry yards of the state, eliminating discouraging losses reported from so many other states where sultry heat, excessive rains or cold affect the comfort and health of poultry.

The rapidly developing commercial centers where extensive mining and manufacturing operations furnish employment to thousands of laborers, afford an eager market for fresh eggs and dressed poultry the year around. In spring and summer when eggs are a drag on the market in many states, the mining cities of Montana pay an average of fifty cents a dozen for fresh eggs.

### Never on Strike.

No other line of endeavor is so sure of profitable returns, with proper care, as poultry. Unfavorable weather conditions mean poor crops and no profit; unsettled labor conditions mean poor business in mercantile and manufacturing pursuits, but the "little red hen" does not go on strike—she is always reliable and on the job. The balance of credit is always on the side of poultry even if every particle of feed is bought. All that is needed is to keep the hens in good health and feed well. It is not necessary to have any particular breed of chickens to achieve good results. It may be said that the American breeds do best in the state. The old fashioned Barred Rocks and Rhode Island Reds and the Wyandottes are the favorites on Montana farms. Some fanciers may take issue but these breeds are the best known and are reliable from every standpoint, being good table fowls and averaging well as egg producers. Many exclusive poultry farms in the state, catering strictly to the egg trade, favor the Leghorn, which, when properly housed, maintains its reputation as an "egg machine". But a visit to the annual poultry shows of the State Fair demonstrates that all breeds and varieties grown in Montana are equal to the best seen in America.

There is a constantly increasing demand in Montana for standard bred fowls. Annual exhibits in most of the counties of the state bring to light adherents of the standard breeds. At the State Fair more than 1,500 standard bred fowls are entered in competition annually for the large cash premiums, thus stimulating the poultry business of the state. The Montana legislature at its last session, appropriated $1,000 a year to be used by the State Board of Poultry Husbandry for the advancement of the industry.

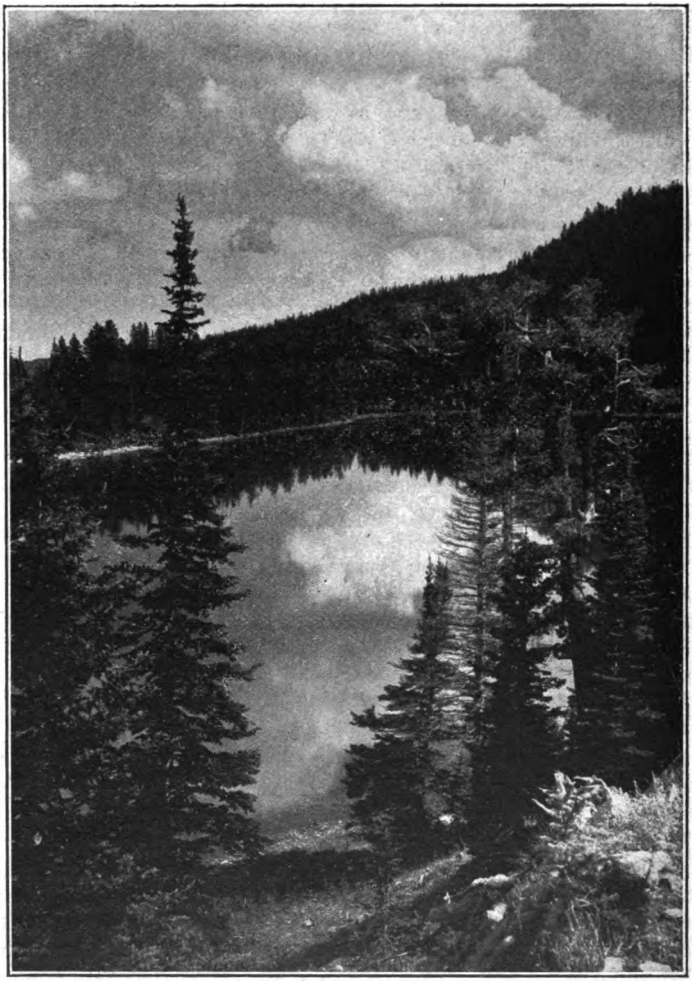
Digitized by Google

Montana's Agricultural College at Bozeman has a poultry department under Professor William F. Schoppe, where students are given comprehensive and practical instruction in the breeding and care of poultry.

### Turkeys Thrive Here.

Turkeys, ducks and geese do well in Montana. The wild ducks in thousands have long made the state's lakes and streams a favorite feeding ground and the tame breeds thrive equally as well. The dry climate is especially favorable to turkeys in the growing stage and the grain stubble furnish them an abundance of feed for fattening in the fall. The market is always good, the birds bring from twenty to thirty cents a pound at Thanksgiving and during the holidays.

There has been established to some extent in Montana a system of co-operative marketing and handling of the poultry business. In such localities where the system is in operation, there are poultry associations ready to lend assistance to those who are entering the business. Information as to the location of the various associations throughout the state may be obtained by writing to J. L. Dorsh, 1250 Harrison Avenue, Butte, member of the State Board of Poultry Husbandry.



A Mountain Lake Where the Trout Splash

Digitized by Google

# Banks and Banking in Montana

## Financial Institutions Are Solid and Trustworthy Under the Operation of Stringent Banking Law---Increase of Banks During Year

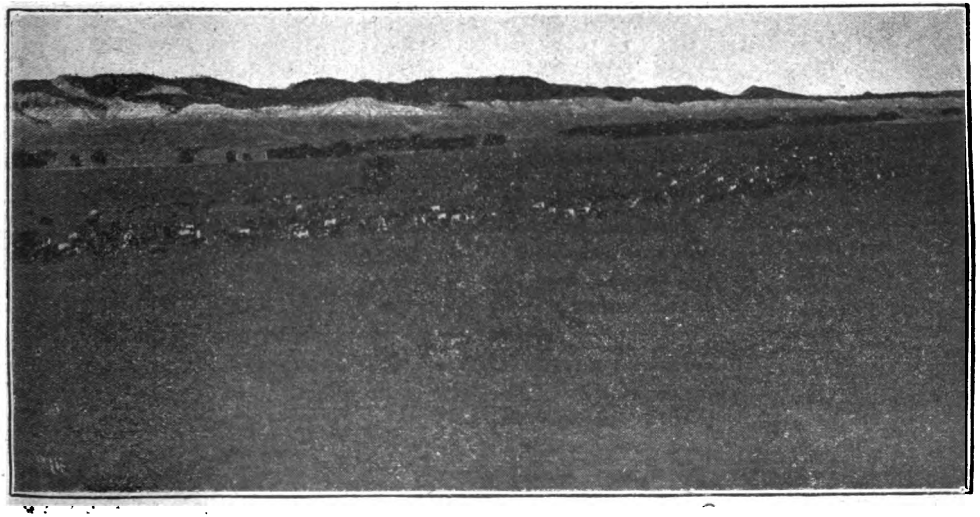
INDICATIVE of the wonderful growth of Montana and the development of its resources, is the increase in banks during the past fiscal year.

This has been shown not only by national banks but by state and private banks whose business has developed marvelously. For the fiscal year ending June 30, 1917, Montana lead the nation in the number of new national banks chartered—thirty-seven, bringing the total of banks of this class up to nearly one hundred, whose footings aggregate about $89,000,000. The footings of the state and private banks, September 11, this year, were $110,000,000.

According to the report made to the Superintendent of Banks of Montana, in response to his call of September 11, 1917, there were 264 state banks and 13 private banks, with deposits of more than $89,000,000. The increase of deposits during the year was $15,000,000.

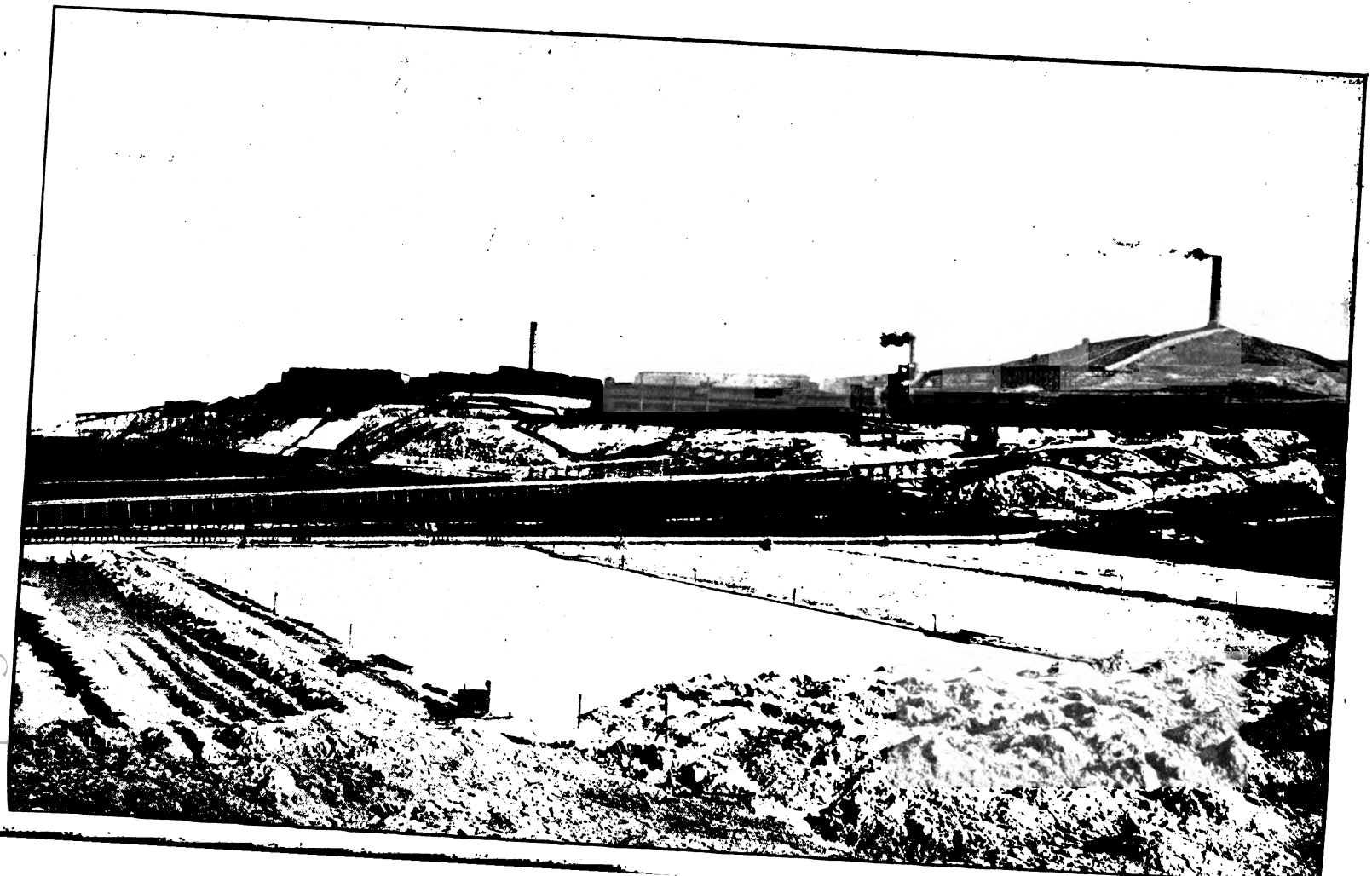
These banks are capitalized at $11,131,000 and their loans and bonds aggregate within a few hundred dollars of $80,000,000. Cash on hand, September 11, when the report was made, was shown to be more than $24,600,000.

All the banks in Montana are in good condition and during the past three years there has not been a failure. The banks operate under a stringent law which gives the superintendent and examiner, almost autocratic powers in the matter of granting of charters, inspection and supervision and control. The law is rigidly enforced.



Where the Banker Has Good Security

Digitized by Google



Digitized by Google

# Mines and Mining in Montana

## From Time of Early Discoveries of Precious Metals, the State Has Been a Steady Producer of Mineral Wealth Millions Are Taken From the Ground

IN EXCESS of ten hundred million dollars worth of precious and semi-precious metals is regarded as a fair estimate of the mineral products of Montana, extending over half a century of mining, milling and smelting.

This estimate is based on figures compiled from the records and from conservative estimates regarding the approximate output of gold from the early day placer mines. Beginning with the primitive placers in 1862 the recovery of metals from ores has advanced marvelously.

Smelting which was then comparatively unknown has become a fixed part of the mining business. New processes have been worked out for the recovery of practically all of the metals. Zinc has become a remunerative ore for mining either by itself or in connection with lead. Manganese heretofore regarded as a worthless product here, is being mined and shipped in large quantities. Copper production predominates over all other metals, both as to value and amount mined and smelted annually.

Associated with the copper is a considerable amount of silver and gold, that is recovered. The precious and semi-precious metals mined successfully in the state are, gold, silver, copper, lead, zinc, and manganese.

### Steady Increases.

Steady increases in the output of gold, silver, copper and lead have been noted in Montana year by year, 1916 and thus far in 1917 manifesting evidences of being record breakers.

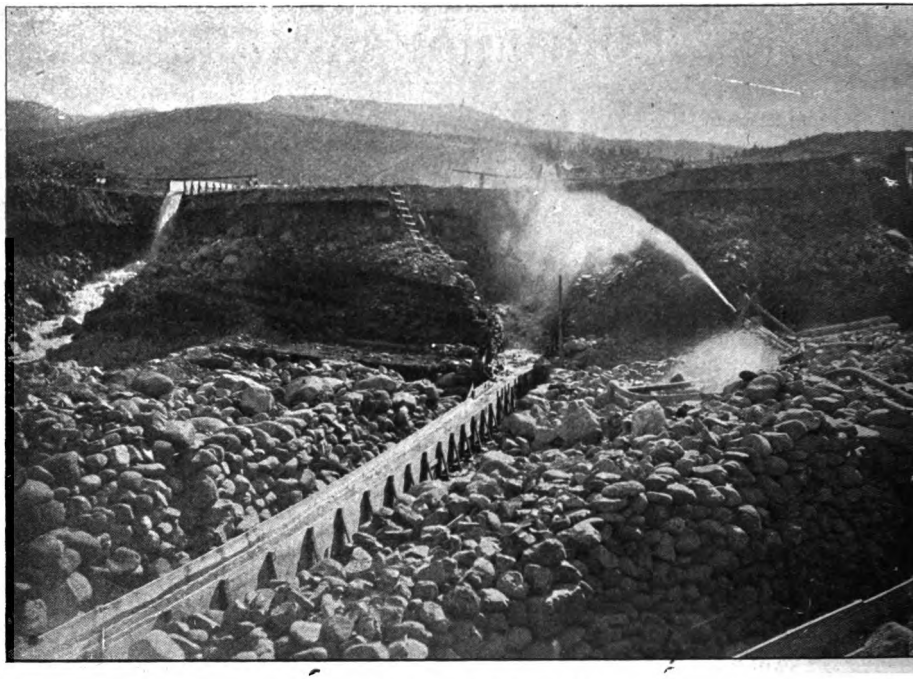
For 1916, the total mineral wealth produced from Montana mines is given by the geological service of the department of the interior at $145,000,000, an increase of nearly 74 per cent over 1915. In 1916 all metals like silver, copper, lead and zinc showed notable increases. Gold showed a slight decrease but even so the output was $4,635,000. Much of this gold came from Lewis and Clark country mines and from the mines of Phillips county.

The rise of the price of silver and lead within the past few years has resulted in an intensive search for those metals. Copper, always in demand, has been even more sought for during the war. Zinc has also been in big demand and Montana mines for the first four months of 1917, notwithstanding labor troubles, showed a big increase over the record for corresponding months of 1916. In 1916, Montana lead all states in silver production, recording $9,240,100 as against Nevada with $9,000,000, its nearest competitor. In gold the state was near the top of the list.

Silver for 1916 showed 16,686,000 ounces, valued at $10,979,000, practically 51 percent increase over the silver record for 1915 in the state.

Copper showed 337,000,000 pounds and owing to the high price was valued at $97,461,000, a value increase over 1915 of 108 per cent.

Digitized by Google



Hydraulic System of Placer Mining

Lead increased over $3,000,000 in 1916, the output being 16,933,000 pounds. The value was $1,151,000. A large part of this came from lead concentrates made from lead-zinc ore at Butte and from residues from the smelting of zinc concentrates from that district. Mineral and Lincoln counties also contributed heavily to the increase.

Zinc ores showed a heavy increase in 1916 over the previous year with a total output of 227,000,000 pounds, and a gain of nearly 40,000,000 pounds for the year. It was valued at $31,099,000.

The mining industry of the state covers a wide area. There are more than 24,000 miners at work and the smelters employ more than 6,000 men.

## First Gold Discovery.

Gold was first discovered in paying quantities in Montana in the summer of 1862. The find was made in Grashopper creek, where later on, the town of Bannack was established and where the first seat of government was maintained for the territory in 1864. Prior to that time Montana was a part of several territories, including Idaho.

The discoverers of gold in Grashopper Creek were men of Colorado on their way to Deer Lodge valley. Their prospecting was rewarded at Bannack but the party continued to Deer Lodge, returning to Bannack in the fall. They began mining and the news of the find soon spread, bringing miners from Colorado, Nevada, California, Idaho and many other localities. The hunt for gold was extended through the then wilderness for new ground as the Bannack diggings were not of sufficient extent.

Digitized by Google

A Glimpse of Flathead Lake From State Road

Among those who came was a party from Idaho. They reached Bannack in the early spring of 1863 to join the James Sturat expedition to the Yellowstone. The Crow Indians captured them and refused to allow them to proceed. They were robbed of most of their supplies and were ordered on the back trail, the Indians following them. They avoided the redskins by going to the Jefferson valley, thence to Bannack and up the Madison valley. They crossed the Tobacco range and entered what was later called Alder gulch.

### Rich Pan of Dust.

The first day while encamped in this gulch, William Fairweather and Henry Edgar dug into the rimrock and the first pan of gravel yielded $2.40 in gold dust. Fairweather found a nugget worth as much. This proved to be the rich gulch long sought and it was named Alder, owing to the alders growing along the banks. The entire party staked claims of 200 feet each and returned to Bannack to spread the news. Almost the entire population accompanied the discoverers to Alder gulch and the claims were staked and Virginia City founded.

The diggings proved to be the richest and most extensive ever found in the Rocky Mountains or perhaps in the world. The gulch was sluiced for fifteen miles. Since then and within recent years dredges have been installed and are operating successfully down to the junction of Alder gulch with the Ruby river.

### Amount Produced Was Millions.

The exact amount of gold taken from these famous diggings will never be known but it reached millions of dollars. Following the discovery of Alder gulch, the pioneers scattered over the entire territory and in the fall of 1864,

Digitized by Google

A Sugar Mine in a Beautiful Eastern Montana Valley

Last Chance Gulch was discovered and its tributaries, Oro Fino and Grizzly, where Helena now stands. From that time on paying gulches were found on both the east and west slopes of the main range of the Rockies.

An estimate has been made of the product of the placer mines for the first 20 years they were operated and it is given at $200,000,000, which is probably low. Montana in those days was an isolated and remote region in which wild game and wilder Indians predominated. Gold hunters coming here were intent on making a "stake" and returning to what was then called "God's Country" from which they came westward. As fast as the miners acquired the gold they went east and the amount they carried can only be estimated.

### One Gulch's Yield.

No accurate system of determining the yield of the placers was attempted, but it is known that from Montana Bar in Confederate Gulch, Broadwater county, $1,600,000 was taken out. The owners packed it in kegs and hauled it in freight wagons to Fort Benton, headwaters of navigation, thence floated down to Sioux City, where the railroad was reached.

Montana bar was only an insignificant part of the rich diggings. Confederate Gulch and Montana Gulch each yielded millions on gold dust and nuggets.

Two hundred feet of ground about where the Great Northern depot stands in Helena, in Last Chance Gulch, yielded $285,000 in gold. In Nelson Gulch, five miles southwest of Helena, one of the biggest nuggets ever found in Montana was sluiced from the gravel. It weighed out over $2,000.

On the west side of the range were the rich placers of Picnic, Bear Gulch, Elk Creek and many others, including Silver Bow creek. The latter was not so rich in precious metals as others for the reason that the gold was partly amalgamated with silver. The gold is supposed to have eroded from the many quartz leads outcropping on the Butte Hill.

### Quartz Mining Begins.

The first quartz mine that yielded riches in Montana was the Oro Cache at Summit in Alder gulch. A pocket was found in this lead that produced $50,000 in a few days, but the real source of the immense placer deposits of Alder gulch

Digitized by Google

have never been discovered. The leads do not show values that would account for the placer gold in the gulch. Many theories have been advanced as to the source of the placer gold but none are a solution. The true source of the placers is as much a mystery today as it was to the early-day miners.

With the finding of the Ore Cache mines, came the discovery of others. Every reef and outcrop in Madison county was staked and recorded in the eary 60's. The system of locating and recording was the same as prevailed at that time in all Rocky Mountain states. A claim was 200 feet long along the strike of the lead and 11 claims constituted a full claim location.

Gold quartz mining was looked upon as preferable to any other. Free milling ore was the kind then sought.

Years before a railroad reached the state successful attempts to mine and smelt silver-lead ores were made. The first smelter was built at Argenta, Beaverhead county. Later two smelters were built and operated at Wickes and Gregory in Jefferson county.

Lead-silver bullion was turned out in quantities and shipped to the Union Pacific railroad at Crinne, Utah, in freight wagons. The product of the Alta mines, which furnished the bulk of the ore to the smelters, is estimated to be $32,000,000.

### Smelters Go Up.

The smelting works at East Helena, which succeeded the Wickes plant, came under the control of the American Smelting and Refining Company and is the only plant in Montana which reduces silver-lead ores.

On the banks of Silver Bow Creek at Butte, the next smelter was constructed. It was built by Senator W. A. Clark and Senator Hill of Colorado. This smelter was used for many years to reduce Butte ores, until copper mining succeeded silver in the camp.

Copper ore of value was not discovered in Butte until about 1880. The first was in the Anaconda mine and so valuable was it that the plans of the operators and owners were changed. Instead of a silver mill they determined to erect smelting works. Ore was found in seemingly inexhaustible quantities. Marcus Daly built a big plant at Anaconda. Its payroll soon reached a million dollars a month and the copper produced ran up to millions of pounds.

The Butte mines grew more extensive as time passed until hundreds of millions dollars worth of copper have been and are being taken from the mines of that camp. Electric power is used almost exclusively in operating the plants. The ores are nearly all treated at Anaconda, Butte and Great Falls.

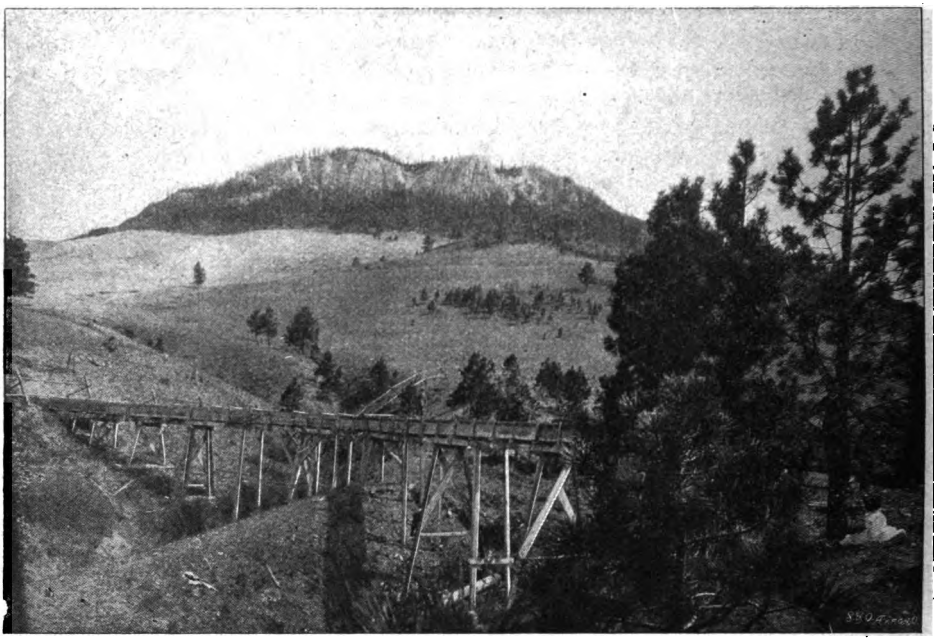
### Other Valuable Deposits.

A new source of revenue has been added to that formerly possessed by Butte, since the great zinc deposits of the camp have been developed within the past few years. Several large works are used in concentrating the ores and the oil flotation process has proved to be almost indispensible in the recovery of the zinc from the gangue.

An electrolytic plant has been installed at Great Falls that reduces the zinc to metalic spelter of commerce. This is the only zinc reducing plant in Montana. The sheets are labeled "Anaconda Zinc".

Manganese ores, which have heretofore been of a negligible quantity, have developed into another great source of revenue for Butte. The price of the metal has advanced to such an extent on account of the war, that it is now a desirable mining product.

Digitized by Google



Bringing Water Across Gulch to Mine

The Phillipsburg region is rich in maganese. Formerly the camp was voted as a silver producer and manganese was left undisturbed until within the past year or so.

The most productive gold mining camp for quartz is at Marysville. One mine in that camp has paid in dividends $15,000,000 and others paid goodly amounts.

Madison county is still a rich mining region. The placers are generally worked out, except where dredges are used, but the mining of copper, gold, silver and lead is carried on successfully. Pony is also a good gold camp. Sheridan camp contains many mines, some producing and others under development. At the old Bannack camp, mining is not only remunerative, but is being carried on extensively. The mines carry gold, silver and lead.

## Other Good Camps.

At Jardine, Park County, there has been a revival of mining. Gold, silver, selenite and tungsten are produced. Selenite is associated with gold and is very rich. Emigrant gulch is a producer of placer gold as in the past.

Winston, in Broadwater County is a shipping point for ores from the surrounding mines. Hell Gate produces rich copper ore. Radersburg has been a shipper for many years and is one of the many ore producers of the county.

At the headwaters of the Big Blackfoot is located Silver Camp, in the Heddlestone mining district. The ores carry values in gold, silver, copper and zinc.

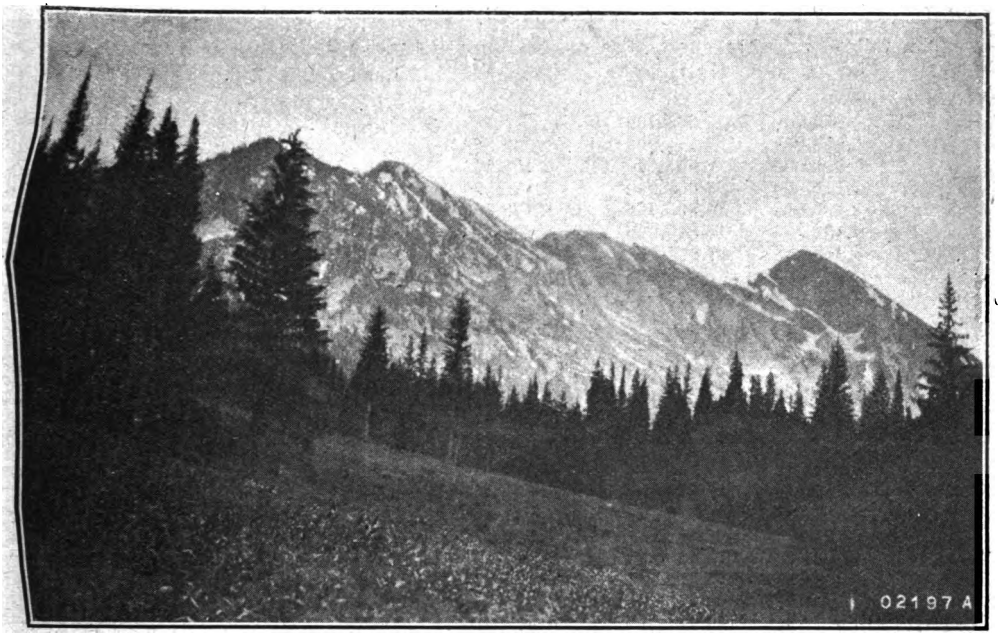
In Beaverhead county a new railroad has been projected from Divide to Elkhorn camp where development of the mineral wealth is being prosecuted. Neihart camp in Cascade county, is shipping silver-lead ore. At Castle in Meagher county, a revival of lead mines is noted.

In the mining camps surrounding Helena, development is under way. Much of the gold increase shown by the state the past year or two has come from the mines in that district. Grizzly, Park and Unionville are also noted for their gold mines.

## Product of Mines in 1916.

According to the report of the United States geological survey for 1916, Silver Bow, Madison and Lewis and Clark counties are the leaders in the order named, of the mineral producing counties of the state. The table herewith submitted,

Digitized by Google




Where the Prospector Delves

includes 513 producing mines as against 643 for 1915 in the counties named. It shows the amount of gold and silver in fine ounces and copper, zinc and lead in pounds. Madison county leads in number of producing mines, 93; Jefferson second with 66; Lewis and Clark third with 65; Silver Bow fourth with 50.

| County | †Gold Fine Oz. | †Silver Fine Oz. | Copper Pounds | Lead Pounds | Recoverable Zinc Content Pounds | Total Value |
|---|---|---|---|---|---|---|
| Beaverhead | 273.37 | 90,616 | 226,132 | 785,308 | ..... | $ 175,091 |
| Broadwater | 3,990.50 | 7,223 | 700,542 | 46,480 | ..... | 262,784 |
| Cascade | 316.02 | 98,651 | 3,916 | 635,169 | 19,106 | 118,795 |
| Deer Lodge | 35,848.54 | 36,155 | 163,949 | 50,593 | 18,754 | 811,180 |
| Fergus | 20,931.23 | 13,920 | 8,280 | 93,351 | ..... | 450,324 |
| Gallatin | ..... | 2 | 1,486 | ..... | ..... | 367 |
| Granite | 6,482.35 | 649,328 | 493,349 | 75,709 | 89,063 | 699,782 |
| Jefferson | 4,857.43 | 164,703 | 852,857 | 679,760 | 898,348 | 585,872 |
| Lewis & Clark | 36,673.76 | 101,635 | 33,102 | 92,285 | 43,318 | 815,306 |
| Lincoln | 447.23 | 303 | 594 | 10,500 | ..... | 10,314 |
| Madison | 39,678.63 | 43,915 | 116,744 | 383,557 | ..... | 904,310 |
| Meagher | 2.95 | 282 | 236,545 | ..... | ..... | 58,437 |
| Mineral | 598.21 | 76,411 | 380,565 | 1,309,188 | 3,116,812 | 664,251 |
| Missoula | 338.92 | 946 | 41,321 | ..... | ..... | 17,794 |
| Park | 33.23 | 616 | ..... | 6,086 | ..... | 1,512 |
| Phillips | 19,946.90 | 175,907 | ..... | ..... | ..... | 528,086 |
| Powell | 1,631.16 | 13,730 | 27,957 | 86,083 | ..... | 55,570 |
| Ravalli | 981.67 | 27,924 | 16,038 | 62,620 | 488,532 | 112,396 |
| Sanders | 26.66 | 8,328 | 86,498 | 83,365 | ..... | 33,062 |
| Silver Bow | 47,071.39 | 14,983,771 | 349,538,498 | 9,195,082 | 224,585,142 | 127,547,714 |
| Total, 1916 | 220,130.15 | 16,494,366 | 352,928,373 | 13,595,136 | 229,359,072 | ‡133,882,947 |
| Total, 1915 | 242,077.03 | 14,378,437 | 267,231,014 | 13,756,356 | 187,146,895 | 82,912,254 |

†Includes placer production.

‡Average value of metals: Gold, $20.6718 per ounce; silver, $0.658 per ounce; copper, $0.246 per pound; lead, $0.069 per pound; zinc, $0.134 per pound.

Digitized by Google

## Production By Years.

The following table shows the mineral production of Montana by years:

| Year | Gold | Silver | Copper | Lead | Zinc | Totals |
|---|---|---|---|---|---|---|
| 1862 to 1881 | $200,000,000 | $ 11,000,000 | $ ..... | $ ..... | $ ..... | $ 211,000,000 |
| 1882 | 2,550,000 | 4,370,000 | 1,539,860 | ..... | ..... | 8,459,860 |
| 1883 | 1,800,000 | 6,000,000 | 3,452,960 | 226,424 | ..... | 11,479,384 |
| 1884 | 2,170,000 | 7,000,000 | 5,386,500 | 246,326 | ..... | 14,802,826 |
| 1885 | 3,400,000 | 11,500,000 | 6,779,800 | 274,350 | ..... | 21,954,150 |
| 1886 | 4,402,000 | 13,849,000 | 5,761,200 | 491,132 | ..... | 24,526,332 |
| 1887 | 5,978,536 | 17,817,548 | 8,853,750 | 607,662 | ..... | 33,257,496 |
| 1888 | 4,200,253 | 15,790,736 | 15,103,946 | 569,160 | ..... | 35,664,095 |
| 1889 | 3,500,000 | 19,393,939 | 13,334,970 | 456,975 | ..... | 36,685,884 |
| 1890 | 3,300,000 | 20,363,636 | 16,630,958 | 964,089 | ..... | 43,029,827 |
| 1891 | 2,890,000 | 20,139,394 | 14,377,336 | 1,229,027 | ..... | 38,635,757 |
| 1892 | 2,891,386 | 22,432,323 | 19,105,464 | 990,035 | ..... | 45,419,208 |
| 1893 | 3,576,000 | 21,858,780 | 16,630,958 | 946,089 | ..... | 43,029,827 |
| 1894 | 3,651,410 | 16,575,458 | 17,233,718 | 730,551 | ..... | 38,191,137 |
| 1895 | 4,327,040 | 22,886,992 | 21,114,869 | 754,360 | ..... | 49,083,261 |
| 1896 | 4,380,671 | 20,324,877 | 25,356,541 | 670,010 | ..... | 50,732,099 |
| 1897 | 4,496,431 | 21,730,710 | 26,798,915 | 928,619 | ..... | 53,954,675 |
| 1898 | 5,247,913 | 19,159,482 | 26,102,616 | 809,056 | ..... | 51,319,067 |
| 1899 | 4,819,157 | 21,786,835 | 40,941,906 | 909,410 | ..... | 68,457,308 |
| 1900 | 4,736,225 | 18,482,211 | 39,827,135 | 701,156 | ..... | 63,746,727 |
| 1901 | 4,802,717 | 18,334,443 | 36,751,837 | 498,622 | ..... | 60,387,619 |
| 1902 | 4,400,095 | 17,662,285 | 24,606,038 | 332,749 | ..... | 46,961,167 |
| 1903 | 4,590,516 | 17,097,702 | 28,200,695 | 387,445 | ..... | 50,276,355 |
| 1904 | 5,097,786 | 18,887,227 | 36,410,310 | 195,525 | ..... | 60,590,848 |
| 1905 | 4,889,234 | 17,359,912 | 48,165,277 | 227,160 | ..... | 70,677,583 |
| 1906 | 4,469,014 | 8,027,072 | 56,105,288 | 254,390 | ..... | 68,855,764 |
| 1907 | 3,286,212 | 6,149,619 | 44,021,758 | 198,660 | ..... | 53,656,249 |
| 1908 | 3,057,640 | 5,488,785 | 33,220,149 | 193,056 | 77,080 | 42,036,710 |
| 1909 | 3,791,510 | 6,436,931 | 40,567,541 | 128,287 | 505,425 | 51,429,694 |
| 1910 | 3,730,486 | 6,567,942 | 36,170,686 | 180,677 | 1,708,462 | 48,358,253 |
| 1911 | 3,710,571 | 6,351,794 | 34,105,963 | 289,421 | 2,497,178 | 46,955,287 |
| 1912 | 3,625,235 | 7,829,597 | 51,106,914 | 335,104 | 1,857,403 | 64,754,613 |
| 1913 | 3,493,432 | 8,346,797 | 44,613,448 | 481,176 | 4,965,693 | 61,900,546 |
| 1914 | 4,117,911 | 6,645,102 | 31,019,542 | 376,584 | 5,690,608 | 47,849,747 |
| 1915 | 4,978,300 | 7,195,600 | 60,000,000 | 550,000 | 14,500,000 | 87,000,000 |
| 1916 | 4,635,000 | 10,979,000 | 97,461,000 | 1,151,000 | 31,099,000 | 145,325,000 |
| | $338,894,870 | $502,372,627 | $1,027,165,782 | $18,289,558 | $63,410,241 | $1,949,910,246 |

## Coal Mines.

The following shows the number of tons of coal produced in Montana by years:

| Years | Production (Tons) |
|---|---|
| 1901 | 1,442,569 |
| 1902 | 1,502,115 |
| 1903 | 1,514,538 |
| 1904 | 1,471,504 |
| 1905 | 1,743,771 |
| 1906 | 1,502,200 |
| 1907 | 2,030,564 |
| 1908 | 1,978,347 |
| 1909 | 2,541,679 |
| 1910 | 2,970,246 |
| 1911 | 2,913,406 |
| 1912 | 3,143,799 |
| 1913 | 3,365,712 |
| 1914 | 2,938,671 |
| 1915 | 2,789,755 |
| 1916 | 3,688,307 |

Digitized by Google

# Oil and Gas a Coming Industry

## Discovery of Petroleum and Natural Gas in Montana Brings State Into the Producing Class—Much Development Work in Progress Everywhere

GREAT AS are the diversified resources of Montana, they have been increased within the past two years by the discovery of petroleum and natural gas in quanities which have attracted much attention.

Experts have long contended that the geological structure of Montana is identical with that of adjacent territory in Canada and Wyoming where oil and gas have been found in abundance. Its emergence from ocean depths occurred at about the same time, the fossilization of the exposed rocks is similar and the oil sands which underlie the fields of a neighboring state have been traced to the Snowy Mountains of Montana.

This similarity of formation is responsible for the vast amount of oil development work now in progress in the state. The first discovery of oil was made in Montana in the Elk Basin district of Carbon county, November 11, 1915. Seven Montana wells are producing in this district.

In October, this year, two oil prospects were discovered near Laurel in Yellowstone county, a district which prior to this time had been unproductive, although much favored for exploration because of its geological structure. The wells were drilled three quarters of a mile apart, oil sand being encountered in one at a depth of about 1875 feet and in the other at 2100 feet.

The United States Geological Survey in its bulletin of August, the present year, shows there were marketed in this country by the Montana wells in 1916, 44,917 barrels. This is the first time Montana has appeared among the oil producing states. The present year, undoubtedly, will see a larger production.

Much oil exploratory work is being carried on in widely separated sections of the state—in the Dry Creek Basin in Carbon county, near Bridger and near Laurel in Yellowstone county, in Toole county, in Sweet Grass county and in Musselshell county near Lavina and Roundup. Explorations are also being made in Deer Lodge, Lewis and Clark, Cascade and Dawson counties.

### Montana's First Oil Well.

From the log of the company which drilled the first oil well in Montana it is learned that the oil was encountered at a depth of 1245 feet. Prior to that there had been a showing at 1205 feet. The drill had gone through black shale for 900 feet and then in red rock and sandy shale for 200 feet when the showing was first encountered in lime shell. The company proceeded to 1245 feet where there was oil sand—announcement of the discovery of petroleum then being made. At a depth of 1280 feet there was a showing of gas. Neither the oil nor gas were of sufficient flow to be of commercial value and the drilling continued to 1490 feet where oil sand was struck. The drill was sent down four feet more and then withdrawn.

The first 24 hours the production was 150 barrels of petroleum. During the second 24 hourse it increased to 200 barrels and has continued to maintain that average since.

Digitized by Google

Good Roads Are the Rule in Montana

## Gas Field of Wide Scope.

Eugene Coste, a Canadian engineer who developed the prolific gas fields of Bow Island, the Edmonton field and the deposit which supplies the city of Hamilton, Ontario, declares there is a gas field in Montana, which when developed and under control, will furnish enough natural gas to heat every city in the state as well as furnish fuel for manufacturing plants.

In Hill county in northern Montana and in Fallon, a county located in the southeastern part of the state, fine deposits of natural gas have been and are being developed.

A number of gas wells near Havre in Hill county were brought in nearly two years ago, the supply being more than ample to heat the city. One of the larger wells has been capped awaiting the time when its product will be needed.

A fine deposit of gas is being developed around Baker, several wells having been drilled close to the town. The gas has been piped to Baker and is used for heating purposes. This year a heavy flow of gas, 18 miles from the town, was encountered at a depth of 650 feet. The strata is 250 feet more shallow than the strata which supplies Baker and is much closer to the surface than the deposit near Glendive in Dawson county. One well close to the boundary line about 70 miles from Billings, blew in a year ago, and flowed over 100,000,000 cubic feet of gas every 24 hours. The roar could be heard a distance of 15 miles. After numerous ineffectual attempts, the well was plugged, and controlled. There are seven other gas wells in this vicinity.

Test wells for gas have been drilled in Fergus county near Grass Range and a flow was found in August this year.

Discovery of gas wells in the northern, the central and the southern and eastern portions of the state, show what geologists have claimed, that the region east of the Rocky mountains is underlaid with gas and probably with oil, although the developments of the latter have not proceeded to a point as yet to demonstrate positively that petroleum exists as generally as does natural gas.

Digitized by Google

# Power Development

## Swiftly Flowing Rivers Are Harnessed to Turn the Industrial Wheels of an Empire---Montana Leads in Electrical Progress

IN THE development of hydro-electrical power, Montana easily leads all the states of the Union, and yet the task of harnessing the swiftly flowing streams of the state and utilizing their energy in the service of man has just been undertaken. As it is, however, electricity, generated from flowing water, is being used in Montana for every conceivable purpose, from the hauling of heavy freight and passenger trains to the operation of sewing machines.

Nature was indeed lavish to Montana in the matter of water power, and no state in the union has as much power capable of economical development. Two of the greatest rivers of the continent, the Missouri and the Columbia, have their source in the high mountains of Montana, and traversing the state for great distances leave its borders at comparatively small elevations. While these mighty rivers are considerable streams at elevations from 5,000 to 7,000 feet above sea level, both of them leave Montana at about 2,000 feet elevation, having a fall within the state of from 3,000 to 5,000 feet, which can be utilized for power development. These great rivers are fed by innumerable mountain streams, which with their cascades and cataracts offer an almost illimitable opportunity for the cheap development of power. Conservative electrical experts have estimated that by the mere harnessing of the larger streams of the state more than 1,000,000 horsepower can be quickly made available for the use of the growing industries of the state.

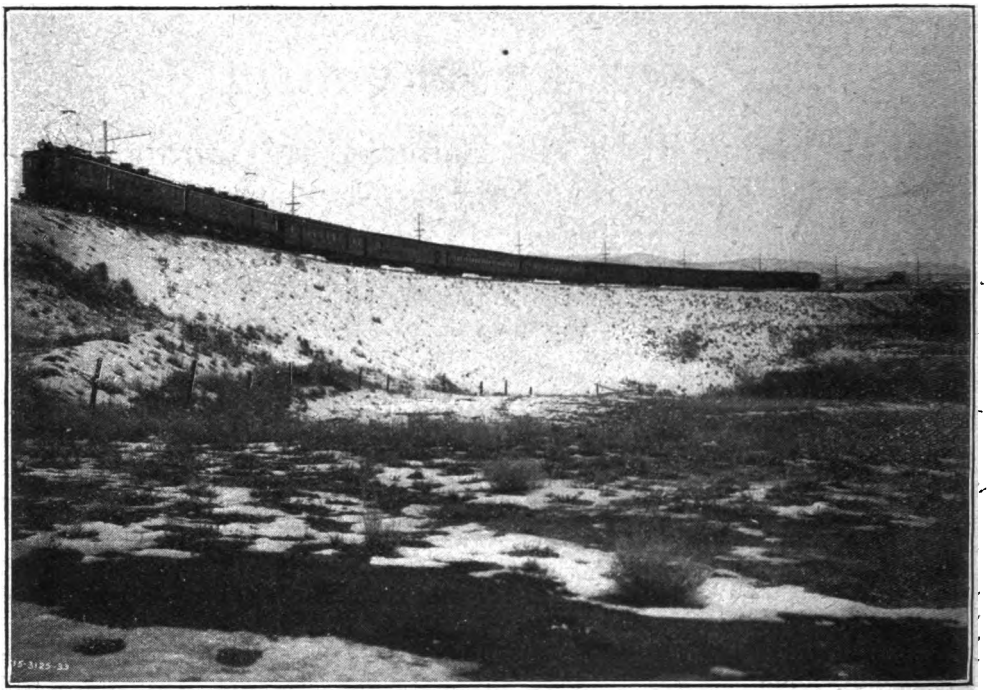
### Pioneer in Electrical Work.

The main range of the Rocky Mountains divides Montana into two parts, the eastern section of which is drained by the Missouri river and its tributaries, the Madison, Jefferson, Gallatin and Yellowstone rivers. The western part is drained by the tributaries of the Columbia, the Clark's Fork and the Kootenai rivers. An important tributary of the Clark's Fork river is the Flathead river, which drains the Flathead lake. Upon all of these streams there are either large power plants or power sites waiting development.

Montana was the pioneer in electrical development. Here was built the first high-tension, long distance transmission line in the world, and here likewise was electrical energy first utilized for the handling of heavily loaded trans-continental freight trains.

The Butte, Anaconda & Pacific railway, running from Butte to Anaconda, and carrying in addition to heavy passenger business immense ore trains between the Butte mines and the Anaconda smelter, was the first successful attempt to utilize electric power to replace steam locomotives for heavy railway traffic. The work of the Butte, Anaconda & Pacific was watched with interest by railway experts all over the world, and as soon as its success was demonstrated the Chicago, Milwaukee & St. Paul railway let contracts for the electrification of its lines across the main ranges of the Rocky and Bitter Root mountains, a distance, from Harlowton, Montana, to Avery, Idaho, of 450 miles. This work has been completed and the success of the undertaking has exceeded the expectations of its fondest promoters.

Digitized by Google



Heavy Passenger Train Driven by Electricity

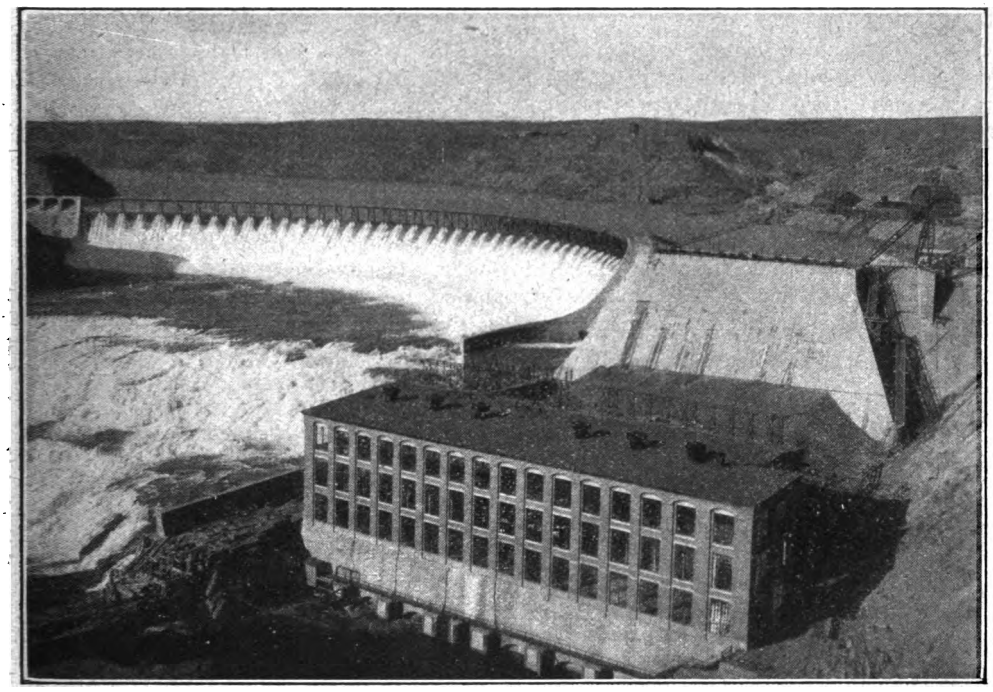
## Transcontinental Lines to Follow.

It is apparent that it is a matter of but a very short time until all the transcontinental railways, especially in their mountain divisions, will turn to electrical operation. In fact it is a matter of common knowledge that other transcontinental systems are even now making provision for this inevitable change. The electrical method of operation not only has the advantage of making large savings in the expenses of operation by the elimination of coal and the greatly reduced maintenance expense of electric locomotives as compared with steam locomotives, but also on account of the fact that with the increase in traffic, due to the rapid development of western and oriental business, the capacity of the whole line is limited by the tonnage which can be hauled over the steep mountain grades. Inasmuch as electric locomotives have a much greater continuous power capacity than any steam locomotives yet built, it follows that heavier trains can be handled over the steep grades at considerably increased speed and the tonnage hauled over the division, increased accordingly, while to get a corresponding increase with steam operation would require double-tracking the road.

## Cheap Water for Land.

Lifting waters by their own power is practically what is being done in the use of electricity for irrigation purposes. There is throughout the state much valuable land, the productive power of which can be greatly increased by irrigation. With the use of cheap electrical power for pumping, it is possible to put much of this land under water during the growing season, and the electrically operated reclamation projects throughout the state are an unqualified success.

Digitized by Google



No State Excels Montana in Water Power

The largest of the reclamation plants of this character is in the Prickly Pear Valley, a few miles from Helena. Two large pumping plants for irrigation have been installed in this valley by the Montana Reservoir & Irrigation company, which secures its power from the Montana Power Company's Hauser lake plant on the Missouri river. The Hauser Lake Dam forms a large artificial lake, from which the water is pumped to thousands of acres of adjacent farm lands. In this project, water for irrigation purposes is furnished at an exceptionally low rate, the contract price paid by the farmers being $1.75 per acre-foot. The unqualified success of this plant insures the rapid extension of the use of electricity for irrigation purposes.

**Replaces Steam Power.**

The great strides which have been made in electrical development have brought electricity into common use throughout the state. It has entirely replaced steam as the power used in the mines and smelters of the state, and a lessened cost of production has resulted, enabling many mines to now be operated at a profit which could not be worked with more expensive power. The saving by the use of electrical power can be better comprehended when it is undrstood that the development of one-horse power by coal costs an average of about $125, while electrical power is furnished the small mines at $50 per horse power per year and the large mines at $35.

Practically all of the cities of the state are lighted by current secured from hydro-electrical development; all of the larger cities have modern street car facilities. The domestic water supply of almost all of the larger cities is pumped by electric power. Thousands of electric flatirons are in constant use in the

Digitized by Google

homes of the people. Cooking by electricity is becoming very popular. Electrically driven sewing and washing machines are in every day use, and many other devices which tend to lighten the duties of the housewife are operated by electric power.

Sixteen large hydro-electric plants, generating a total of 162,100 kilowatts (more than 200,000 horse power) are operated by one company in Montana. From these transmission lines distribute the power to all parts of the state. The various lines are tied together through transformers and operated as one large distributing net-work, into which power is fed through each of the plants, and from which power is taken by numerous sub-stations, varying in size from the Great Falls Power Company's sub-station at Butte, having a capacity of 21,000 kilowatts, down to the lowest standard high-voltage sub-station of 250 kilowatts. Almost 2,000 miles of transmission line are in operatin, a considerable portion of which is steel tower line.

### Conserves Fuel Supply.

The following table shows the total normal capacity of the plants which are now operating on the combined systems of the Montana Power company and the Great Falls Power company:

| Plant— | Generating Capacity (kilowatts) |
|---|---|
| Big Hole | 3,000 |
| Billings No. 1 | 1,000 |
| Black Eagle | 1,400 |
| Canyon Ferry | 7,500 |
| Hauser Lake | 14,000 |
| Lewistown No. 1 | 350 |
| Lewistown No. 2 | 100 |
| Livingston | 1,500 |
| Madison River No. 1 | 2,000 |
| Madison River No. 2 | 9,000 |
| Prospect Creek | 750 |
| Rainbow | 25,000 |
| Missoula River Development | 4,000 |
| Big Fork Development | 2,500 |
| Great Falls Development | 60,000 |
| Thompson Falls Development | 30,000 |
| Total | 162,100 |

To give an idea of the value of the power which is being generated by these plants, it may be stated that to produce 160,000 kilowatts from coal would require the yearly consumption of 2,500,000 tons, which at the average price of $4.00, which would apply at the points where the power is used, would amount to $10,000,000. When it is considered that the value of this coal is, by means of water power, being saved each year for future generations, and that during the next ten years this saving will, in all probability, be increased seven or eight times, it is not difficult to understand that true conservation consists in encouraging the rapid development of water power, which unless developed and utilized becomes lost for all time.

### Much Undeveloped Power.

Only a small portion of the available water power in Montana has been developed. In addition to the plants already built and in operation, there are a large number of large power sites and numberless smaller ones ready for development as soon as the demands for power increase and there is available capital for their construction. Although these possible developments are located in all parts of the state, the larger possibilities exist in the northwestern section of Montana, where the waters of the Flathead, the Kootenai river and other large streams will, when harnessed, furnish more than 500,000 horse power. The power site at the mouth of the Flathead lake, which is one of the most feasible in the state, has been reserved by the government in connection with the reclamation system covering a portion of what was formerly the Flathead Indian reservation. A number of smaller power sites have also been reserved, while many others are under private ownership.

Digitized by Google

# Lumber Industry in the State

## Heavy Output of the Sawmills Which Produce Millions of Feet of Lumber Annually—Tremendous Wealth in Standing Timber of Forests of Montana

POSSIBLY in enumerating the resources of the state, those unquainted with it, would overlook the lumber industry. Montana's mines, its agricultural products, its livestock and its wool are generally known, for the products of the state have been much in the public eye at the various expositions and land shows held throughout the country.

It is estimated that Montana's standing timber, aside from poles, pilings, posts and millions of cords of pulp timber, totals from 55,000,000,000 to 65,000,000,000 board feet.

The total annual production of lumber and wood products in the state average 440,000,000 board measure.

About $25,000,000 are invested in the lumber business of the state.

From this it will be seen that the lumber industry is second only to that of agriculture and mining. If the standing timber is computed at $3 per 1,000 feet, the sawlogs of Montana are worth $195,000,000. Reduced to lumber at the mill, the value would be $975,000,000. This does not take into consideration the by-products of the forest—the fuel and saw dust, pulp for paper, creosote, wood alcohol, turpentine, paving blocks and tanbark. The by-products at present are wasted, but the day is not far distant when all will be saved.

Most of the timber is located in the western part of the state—in Lincoln and Flathead counties, with a goodly amount in Missoula, Sanders and Mineral counties.

Possibly 30 per cent of the timber is privately owned, 3 per cent is held by the state and the remaining 67 per cent is owned by the Federal government, 60 per cent in the national forests and 7 per cent on the Indian reservations and the military reservations.

### Lumber Consumption in State.

The government through the organic act set aside certain grants for the benefit of the public institutions of the state and state officials have selected an aggregate of 252,205 acres or 1,256,000 board feet worth upwards of $4,000,000. Some of these lands have not yet been surveyed.

Within the past few years the influx of settlers and the taking up of thousands of homesteads for which buildings and fences have been constructed, stimulated the lumber industry to an extent, increasing the output to approximately 400,000,000 feet annually. This year the large and small mills cut about 470,000,000 feet. Montana lumber is in demand for out of state markets. It is estimated that about 300,000,000 feet are consumed annually within the state.

There are about 115 saw mills in Montana and all but comparatively few are small. There are twelve mills in the state that have a capacity of 5,000,000 to 60,000,000 annually, about sixteen of a capacity from 1,000,000 to 5,000,000 feet and eighty seven cut only a few thousand feet per year.

On account of the small amount of privately owned timber, the number of big mills is limited. Many small portable mills are owned by ranchers who have tracts of timber on their land and also purchase small tracts from the government on occasion. There are about ten planing mills and factories not connected with saw mills and there are many contractors and buildings who have small wood working machines.

Digitized by Google

Logging Crew at Work in Montana Forest

Lumber more generally produced is western larch and western pine, with a goodly amount of fir and white pine. According to cruisers there are the following species of standing timber in the state:

Western larch, 11 per cent; fir, 22 per cent; western pine and lodge pole, 43 per cent; spruce, 10 per cent; cedar, 3 per cent; miscellaneous, 11 per cent.

**Protection From Fire.**

Probably 40 per cent of the mill products is consumed within the state, the remainder going to middle western states, the Dakotas, Minnesota, Nebraska, Indiana, Iowa, Michigan, Wisconsin and Illinois. A certain amount, possibly 5 per cent, is sent to far eastern markets and for export.

Western pine is the chief lumber producing tree of the state and western larch not far behind. The latter is in much demand for interior finishing, because of its susceptibility to stain and because it takes a high polish. It resembles in appearance Circassian walnut. It is semi-hardwood and is not as susceptible to atmospheric influences as are many other woods.

The value of the lumber industry and the forests has become more generally appreciated in the state the past ten years. Accordingly there has grown up a system of fire patrol during the dry seasons, in which the federal foresters, owners of timber and the state forestry department and the state game wardens co-operate. The regulations as to prevention and control of fires are strictly enforced. So well have these organizations worked that the losses have grown appreciably less year by year. During the present year, owing to lack of rain, there were heavier losses than usual, notwithstanding the fact that the forest service and the lumber companies redoubled their efforts. Lightning played a large part in setting fires and railroad engines unequipped with spark arresters, were responsible for many blazes. On the whole, however, the cost of protecting the timber of the state has been reduced to a minimum, due to the education of the public and the employment of trained fire fighters.

Digitized by Google

# Montana Weather

## With Short Winters and Long Summers, With Plenty of Sunshine and With Rain When It is Most Needed, Ideal Crop Conditions Prevail

AN ERRONEOUS idea prevails in many quarters concerning Montana's climate. Many people entertain the belief that this is a land of long, cold winters. These people are invariably surprised when they learn the truth. Even in winter in Montana the uncomfortably cold day is the exception rather than the rule. The winter climate of Montana, as shown by United States weather bureau statistics, is milder than that of other states of the same latitude; in fact, a line of equal temperature, drawn through Montana points, extends southward from this state and swings eastward through Iowa, thus indicating that the January climate of Montana is similar to that of the middle western states.

In considering the climate of Montana, however, it is necessary to remember that Montana is a state of enormous proportions, and that within the state there is a great range of altitudes, extending from the high peaks and table lands of the Rocky mountains to the lower plains in the eastern and valleys in the western part of the state. There are high mountain peaks which reach above the level of perpetual snow; there are sheltered valleys in which the wind scarcely stirs a leaf; there are great plains, level as a floor, and there are many foothills and stretches of rolling land. All of these have their own effect upon the climate of the state, making for different temperatures and different weather conditions in different sections of the state. The most pronounced of these diversified conditions is due to the main range of the Rocky mountains, on the western slope of which there is generally speaking more precipitation and milder winter weather than on the eastern.

### Montana's Healthy Climate.

Montana climate makes for health. Malarial conditions are entirely absent; fogs are unknown. The winter season is not one of continued cold. Plenty of sunshine, even in December and January, is the rule rather than the exception. Extreme cold spells are of short duration and are rapidly modified by the "chinook" winds, a western breeze, warmed by the Japanese current, which stretches its modifying influence as far east as the Dakotas.

Many are the enthusiastic tributes which have been paid to the climate of Montana. A federal government report contains the following:

> "The light snowfall in the valleys throughout the state during the winter months is usually speedily evaporated by the chinook winds which are prevalent from Oregon to Nebraska, from the Peace River to Arizona, being particularly common in Montana, where they do much to modify the climate."

In his book, "The Treasure State", James H. Mills said:

> "The average temperature in Montana is about the same as in New York or Pennsylvania. The snowfall in the valleys is less than in either of those states, there is more sunshine than in any Middle, Eastern or New England state, and the great mountains, ribbed with veins of gold, silver and copper and crowned with majestic forests, are but gigantic

Digitized by Google

framework in which are set great picture valleys, bench lands and foothills, fertile as the Valley of the Nile, and which have never yet refused to yield bounteous harvests when touched by the hand of industry and nourished with water."

Randal J. Condon, superintendent of the public schools of Cincinnati, Ohio, who for some years resided in Helena, wrote for a geography used in the public schools a brief description of Montana. Of the climate of the state he said:

"It is doubtful if there is another state in the Union where the climate, taken the year round, is so delightful as that of Montana. Its northern latitude is more than offset by the mild westerly winds, which temper the climate of the mountains and plains and yet do not bring excessive moisture.

"Fogs are almost unknown, and on the days when the temperature is low there is not that penetrating chill which is felt in the more humid states.

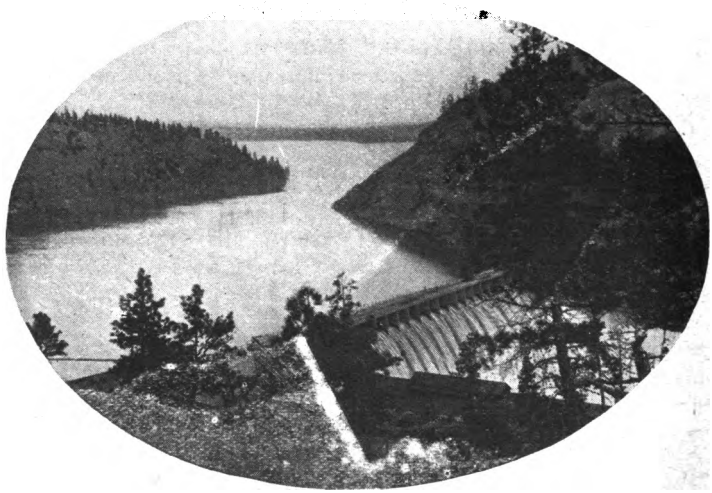
"As in any extreme northern state, the thermometer occasionally records a low midwinter temperature, but the cold spells are short. While they remain there is practically no wind; the air is dry and the sunshine clear. The ordinary outdoor occupations may be carried on in winter with little inconvenience. On the other hand, the summer temperatures are never oppressive, and heat prostrations are unknown. The temperature in the middle of the long summer days may rise higher than in the states farther south, but with the coming of night the cold mountain breeze brings a delightful change."

**Comparison of Temperatures.**

The following comparison of the monthly and annual mean temperatures of the states of Ohio, New York, Wisconsin and Montana is of interest:

| State | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Montana | 19 | 22 | 30 | 44 | 53 | 59 | 66 | 65 | 55 | 45 | 31 | 24 | 44 |
| Wisconsin | 15 | 16 | 29 | 42 | 56 | 65 | 70 | 67 | 59 | 48 | 32 | 19 | 44 |
| New York | 22 | 22 | 31 | 44 | 55 | 65 | 69 | 67 | 61 | 49 | 37 | 27 | 46 |
| Ohio | 28 | 27 | 38 | 50 | 61 | 70 | 74 | 71 | 65 | 53 | 41 | 31 | 49 |

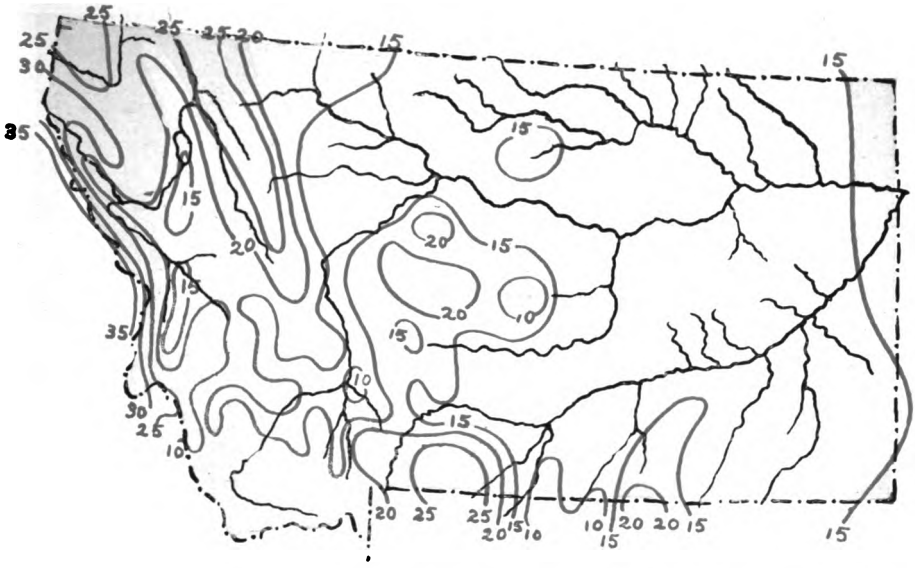
A United States weather bureau has long been maintained in Helena and the climatic conditions of the state have been well charted by the weather officials, who have kindly furnished the tables and maps shown in this chapter. A prospective settler may study these maps with interest. They show, for instance, that in the section of the state where there is the least average annual precipitation, the greater percentage of this precipitation falls in the crop-growing season, and that in this section there is also the longest crop-growing period, as measured by days.



A Harnessed Mountain Stream

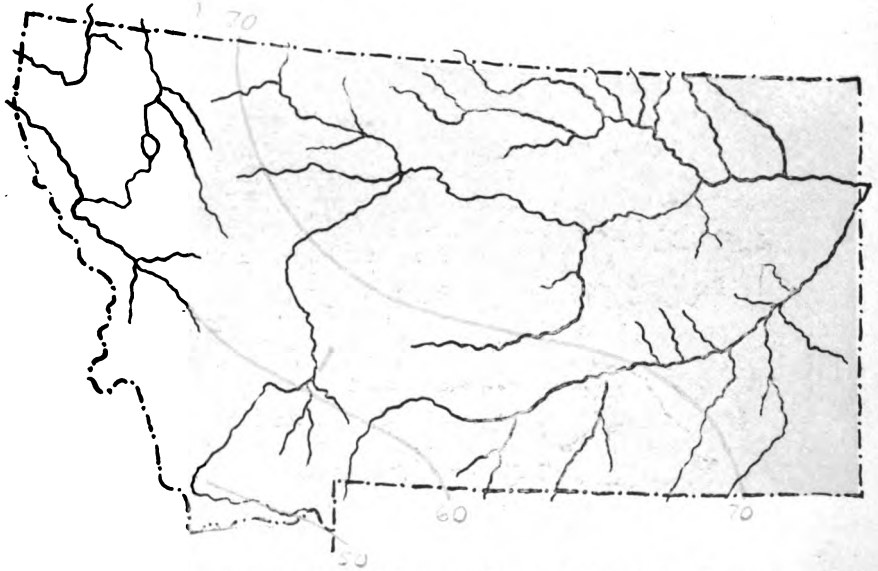
Digitized by Google

## AVERAGE ANNUAL PRECIPITATION.




**The above shows** that in the mountainous sections in western and central **Montana the average** annual precipitation is greater than in the eastern, northern **and other plains sections** of the state.

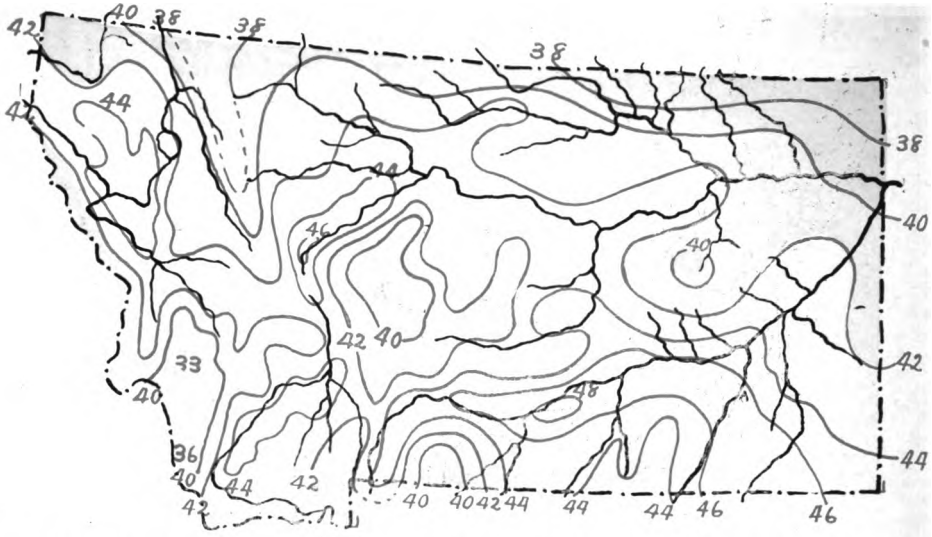
## PERCENTAGE OF ANNUAL PRECIPITATION BETWEEN APRIL 1ST AND SEPTEMBER 30TH.




**This map shows** that in the plains section of the state the precipitation is **greater during the growing** season than it is in the mountainous section.

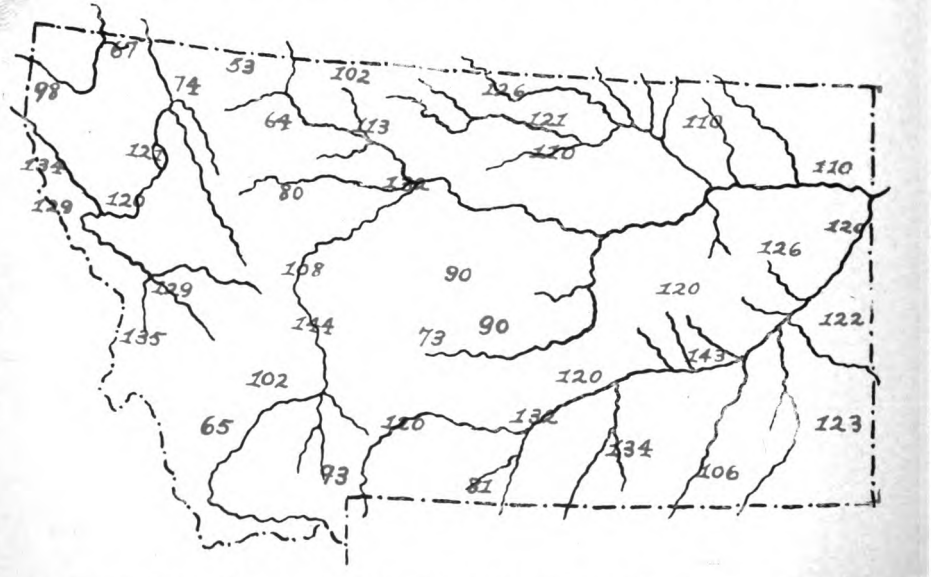
Digitized by Google

## MEAN ANNUAL TEMPERATURE.




This map illustrates that except in the mountains and along the Canadian boundary there is little difference in mean annual temperatures in Montana.

## AVERAGE LENGTH OF CROP-GROWING SEASON IN DAYS.




The above map shows a considerable variation in the number of days in a crop-growing season in the different sections of Montana. The most limited season is in the highest mountain regions adjacent to the Canadian border.

Digitized by Google

## U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
### Monthly and Annual Precipitation, 1916.

| COUNTY | STATION | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | An. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beaverhead | Dillon | 3.42 | 0.84 | 0.92 | 1.84 | 3.34 | 3.63 | 3.96 | 0.96 | 1.38 | 1.90 | 1.01 | 0.49 | 23.69 |
| Carbon | Red Lodge | 0.57 | 0.74 | 1.41 | 2.18 | 3.73 | 2.86 | 0.56 | 0.72 | 1.14 | 4.06 | 0.86 | 1.04 | 19.87 |
| Carter | Ekalaka | 0.22 | 0.11 | 0.53 | 0.99 | 1.78 | 3.50 | 1.43 | 1.84 | 0.59 | 0.88 | 0.63 | 0.48 | 12.98 |
| Cascade | Great Falls | 1.56 | 0.32 | 0.08 | 1.60 | 3.67 | 5.75 | 2.52 | 1.12 | 1.50 | 2.17 | 0.33 | 0.98 | 21.60 |
| Dawson | Miles City | 1.38 | 0.18 | 0.35 | 0.22 | 1.30 | 3.96 | 2.61 | 1.51 | 1.35 | 0.58 | 0.39 | 1.99 | 15.82 |
| Custer | Glendive | 0.91 | 0.04 | 0.35 | 0.25 | 1.21 | 5.22 | 4.96 | 6.29 | 4.37 | 0.67 | 0.50 | 1.25 | 26.02 |
| Big Horn | Foster | 0.64 | 0.68 | 0.50 | 0.55 | 1.77 | 3.10 | 1.19 | 0.49 | 1.19 | 1.18 | 0.65 | 0.41 | 12.05 |
| Fergus | Lewistown | 0.80 | 0.51 | 0.91 | 1.80 | 2.43 | 4.15 | 2.39 | 0.70 | 1.76 | 1.34 | 0.78 | 1.47 | 19.04 |
| Flathead | Kalispell | 1.95 | 1.06 | 2.43 | 0.73 | 1.11 | 3.91 | 1.76 | 1.96 | 1.63 | 0.62 | 0.80 | 1.70 | 19.66 |
| Gallatin | Bozeman | 0.95 | 0.78 | 2.04 | 2.10 | 2.99 | 2.33 | 1.58 | 1.38 | 1.89 | 2.40 | 1.11 | 1.64 | 21.19 |
| Granite | Philipsburg | 0.44 | 1.05 | 0.52 | 1.80 | 2.03 | 4.72 | 3.55 | 1.19 | 1.85 | 0.72 | 0.64 | 0.89 | 19.40 |
| Hill | Havre | 1.75 | 0.47 | 0.59 | 0.69 | 3.00 | 4.03 | 5.90 | 0.34 | 1.42 | 1.01 | 0.46 | 1.05 | 20.71 |
| Jefferson | Renova | 0.13 | 0.31 | 0.64 | 1.52 | 2.60 | 2.60 | 1.12 | 1.50 | 1.79 | 1.54 | 0.20 | 0.09 | 14.04 |
| Lewis & Clark | Helena | 1.26 | 1.06 | 0.48 | 1.65 | 2.93 | 3.60 | 1.69 | 1.19 | 1.69 | 2.06 | 0.32 | 1.03 | 18.96 |
| Lincoln | Libby | 2.88 | 2.00 | 2.93 | 0.72 | 0.55 | 2.94 | 1.82 | 0.77 | 1.28 | 0.96 | 1.46 | 1.46 | 19.77 |
| Madison | Norris | 0.73 | 0.57 | 0.87 | 1.76 | 3.10 | 3.40 | 2.16 | 0.72 | 1.10 | 2.52 | 0.29 | 0.34 | 17.56 |
| Meagher | White Sul. Spgs. | 0.46 | 0.55 | 0.37 | 0.72 | 1.94 | 3.58 | 0.91 | 0.90 | 1.33 | 0.37 | 0.10 | 0.86 | 12.36 |
| Missoula | Missoula | 1.12 | 1.06 | 0.96 | 1.92 | 1.52 | 3.24 | 0.82 | 1.22 | 1.49 | 1.36 | 0.58 | 1.04 | 16.33 |
| Musselshell | Wheaton | 1.08 | 1.18 | 0.38 | 0.73 | 1.49 | 4.48 | 1.26 | 1.49 | 0.65 | 1.22 | 0.25 | 1.54 | 15.73 |
| Park | Livingston | 0.69 | 0.73 | 1.16 | 0.70 | 2.15 | 1.86 | 0.75 | 0.88 | 0.75 | 2.12 | 0.29 | 0.63 | 13.71 |
| Powell | Ovando | ..... | 1.36 | 1.46 | 1.34 | 1.24 | 5.31 | 2.31 | 1.48 | 1.87 | 1.47 | 0.94 | 2.09 | ..... |
| Ravalli | Stevensville | 1.56 | 0.95 | 0.15 | 1.37 | 1.58 | 2.26 | 0.86 | 2.25 | 1.44 | 0.55 | 0.21 | 1.16 | 14.34 |
| Sanders | Thompson Falls | 2.79 | 2.47 | 3.84 | 0.83 | 1.87 | 3.15 | 3.05 | 0.98 | 1.73 | 1.49 | 2.13 | 1.62 | 25.95 |
| Sheridan | Medicine Lake | 0.77 | 0.37 | ..... | ..... | 1.25 | 5.24 | 2.73 | 0.63 | 2.21 | 0.55 | 0.07 | 0.76 | ..... |
| Silver Bow | Butte | 1.08 | 0.54 | 1.12 | 1.30 | 2.77 | 2.56 | 1.48 | 0.39 | 2.00 | 0.96 | 0.96 | 1.72 | 16.88 |
| Stillwater | Busteed | 0.87 | 0.68 | 0.62 | 0.50 | 3.12 | 2.80 | 1.17 | 0.61 | 0.40 | 3.38 | 0.40 | 0.76 | 15.31 |
| Sweetgrass | Big Timber | 1.10 | 1.01 | 1.08 | 0.90 | ..... | 2.27 | 1.65 | 0.68 | 0.25 | 2.76 | 0.36 | 0.37 | ..... |
| Teton | Valier | 1.41 | 0.43 | 0.54 | 0.52 | 2.64 | 5.19 | 2.91 | 1.46 | 1.53 | 1.32 | 0.45 | 0.48 | 18.88 |
| Valley | Glasgow | 2.50 | 1.64 | 1.34 | 0.45 | 2.18 | 4.90 | 2.97 | 0.95 | 2.37 | 0.38 | 0.23 | 0.56 | 20.47 |
| Wheatland | Harlowton | 1.34 | 1.01 | 0.05 | 0.24 | 2.70 | 4.20 | 1.20 | 1.70 | 0.00 | 0.17 | 0.08 | 0.18 | 12.87 |
| Yellowstone | Billings | 0.60 | 0.48 | 0.84 | 1.27 | 2.38 | 2.50 | 3.13 | 0.83 | 1.15 | 1.72 | 0.62 | 0.49 | 16.01 |

Digitized by Google

## U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
### Monthly Maximum and Minimum Temperatures, 1916.

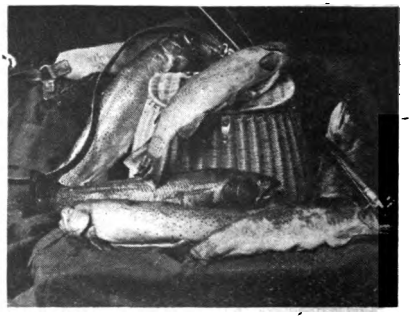
| COUNTY | STATION | Jan. | | Feb. | | Mar. | | Apr. | | May | | June | | July | | Aug. | | Sept. | | Oct. | | Nov. | | Dec. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beaverhead | Dillon | 43 | -31 | 48 | -10 | 68 | -9 | 65 | 30 | 77 | 28 | 88 | 28 | 88 | 33 | 89 | 31 | 85 | 31 | 67 | 21 | 63 | -20 | 54 | -21 |
| Carbon | Red Lodge | 49 | -35 | 55 | -12 | 68 | -18 | 74 | 11 | 77 | 14 | 81 | 30 | 88 | 37 | 85 | 35 | 79 | 21 | 68 | -2 | 61 | -24 | 47 | -16 |
| Carter | Ekalaka | 46 | -42 | 50 | -22 | 69 | -10 | 73 | 16 | 87 | 24 | 86 | 33 | 101 | 44 | 98 | 42 | 98 | 27 | 73 | 10 | 72 | -14 | 57 | -26 |
| Cascade | Great Falls | 51 | -42 | 61 | -31 | 70 | -9 | 82 | 25 | 84 | 29 | 86 | 38 | 91 | 45 | 93 | 39 | 91 | 27 | 73 | 18 | 70 | -16 | 56 | -37 |
| Custer | Miles City | 43 | -46 | 50 | -28 | 71 | -9 | 82 | 18 | 88 | 30 | 90 | 38 | 104 | 44 | 102 | 46 | 102 | 34 | 78 | 26 | 72 | -12 | 58 | -28 |
| Dawson | Glendive | 34 | -48 | 48 | -28 | 67 | -16 | 79 | 16 | 88 | 24 | 84 | 34 | 99 | 52 | 99 | 43 | 93 | 29 | 72 | 22 | 72 | -5 | 56 | -33 |
| Big Horn | Foster | 52 | -45 | 50 | -36 | 73 | -8 | 84 | 19 | 89 | 20 | 91 | 36 | 104 | 43 | 97 | 39 | 94 | 27 | 78 | 10 | 71 | -24 | 58 | -32 |
| Fergus | Lewistown | 52 | -41 | 62 | -21 | 66 | 15 | 80 | 18 | 85 | 19 | 87 | 30 | 93 | 36 | 91 | 31 | 93 | 21 | 76 | 9 | 70 | -23 | 49 | -32 |
| Flathead | Kalispell | 48 | -22 | 48 | -16 | 57 | 2 | 77 | 26 | 74 | 28 | 88 | 33 | 91 | 41 | 85 | 38 | 85 | 29 | 67 | 19 | 60 | -3 | 45 | -20 |
| Gallatin | Bozeman | 49 | -33 | 47 | -8 | 67 | -4 | 75 | 25 | 78 | 24 | 84 | 31 | 90 | 36 | 87 | 33 | 88 | 24 | 68 | 5 | 65 | -23 | 48 | -22 |
| Granite | Philipsburg | 48 | -32 | 47 | -4 | 62 | -9 | 80 | 20 | 74 | 19 | 94 | 29 | 93 | 36 | 88 | 29 | 90 | 20 | 74 | 10 | 62 | -27 | 48 | -20 |
| Hill | Havre | 30 | -57 | 49 | -28 | 65 | -17 | 84 | 17 | 85 | 27 | 84 | 40 | 92 | 46 | 90 | 36 | 86 | 26 | 74 | 4 | 70 | -21 | 53 | -33 |
| Jefferson | Renova | 47 | -35 | 50 | -16 | 71 | -7 | 80 | 20 | 83 | 18 | 91 | 28 | 94 | 38 | 96 | 31 | 92 | 21 | 72 | 10 | 74 | -15 | 55 | -25 |
| Lewis & Clark | Helena | 53 | -32 | 53 | -9 | 66 | -7 | 76 | 25 | 82 | 29 | 89 | 35 | 93 | 44 | 91 | 39 | 92 | 28 | 73 | 15 | 67 | -12 | 51 | -20 |
| Lincoln | Libby | 45 | -32 | 53 | -22 | 62 | 5 | 84 | 21 | 75 | 24 | 95 | 27 | 99 | 37 | 96 | 35 | 88 | 25 | 74 | 17 | 56 | -4 | 45 | -29 |
| Madison | Norris | 45 | -27 | 56 | -2 | 66 | -2 | 75 | 28 | 80 | 28 | 88 | 34 | 94 | 46 | 92 | 41 | 91 | 30 | 72 | 16 | 68 | -10 | 50 | -12 |
| Meagher | White Sul. Spgs. | 42 | -42 | 49 | -13 | 60 | -9 | 75 | 18 | 79 | 23 | 83 | 28 | 87 | 38 | 86 | 30 | 87 | 22 | 66 | 14 | 62 | -25 | 49 | -28 |
| Missoula | Missoula | 49 | -23 | 48 | -7 | 64 | 4 | 81 | 24 | 82 | 25 | 93 | 30 | 98 | 40 | 92 | 36 | 92 | 29 | 68 | 20 | 57 | -5 | 46 | -17 |
| Musselshell | Wheaton | 50 | -36 | 60 | -18 | 70 | -11 | 82 | 18 | 86 | 25 | 86 | 35 | 92 | 40 | 98 | 40 | 93 | 20 | 73 | 12 | 67 | -18 | 55 | -17 |
| Park | Livingston | 48 | -39 | 60 | -5 | 71 | -3 | 79 | 22 | 82 | 23 | 87 | 31 | 91 | 43 | 89 | 32 | 90 | 24 | 72 | 12 | 66 | -18 | 54 | -13 |
| Powell | Ovando | .... | .... | 52 | -23 | 64 | -9 | 82 | 4 | 82 | 20 | 94 | 26 | 95 | 38 | 95 | 31 | 94 | 24 | 75 | 21 | 66 | -13 | 46 | -33 |
| Ravalli | Stevensville | 47 | -24 | 52 | -10 | 63 | 4 | 80 | 23 | 78 | 23 | 92 | 29 | 97 | 38 | 91 | 31 | 84 | 27 | 68 | 18 | 58 | -9 | 48 | -21 |
| Sanders | Thompson Falls | 45 | -24 | 55 | -17 | 51 | 12 | 82 | 21 | 75 | 24 | 96 | 32 | 99 | 39 | 93 | 36 | 84 | 28 | 75 | 18 | 61 | 2 | 45 | -15 |
| Sheridan | Medicine Lake | 20 | -51 | 50 | -32 | .... | .... | 77 | 16 | 82 | 22 | 82 | 31 | 93 | 45 | 94 | 34 | 88 | 20 | 72 | 11 | 68 | -12 | 52 | -42 |
| Silver Bow | Butte | 44 | -33 | 48 | -6 | 65 | 14 | 74 | 23 | 76 | 16 | 84 | 22 | 90 | 34 | 88 | 33 | 85 | 27 | 66 | 13 | 62 | -19 | 47 | -15 |
| Stillwater | Busteed | 52 | -36 | 59 | -18 | 74 | -15 | 83 | 18 | 85 | 20 | 86 | 32 | 92 | 38 | 91 | 35 | 90 | 24 | 75 | 11 | 69 | -20 | .... | .... |
| Sweetgrass | Big Timber | 52 | -31 | 59 | -6 | 73 | -5 | 82 | 23 | .... | .... | 91 | 39 | 98 | 43 | 97 | 33 | 94 | 25 | 80 | 12 | 72 | -22 | 55 | -13 |
| Teton | Valier | 45 | -39 | 59 | -29 | 63 | -11 | 76 | 20 | 79 | 22 | 83 | 34 | 87 | 41 | 86 | 40 | 82 | 27 | 76 | 16 | 63 | -20 | 51 | -34 |
| Valley | Glasgow | 30 | -56 | 48 | -33 | 59 | -33 | 83 | 11 | 88 | 23 | 85 | 35 | 99 | 48 | 94 | 38 | 84 | 29 | 71 | 15 | 65 | -8 | 57 | -38 |
| Wheatland | Harlowton | 56 | -46 | 65 | -23 | 75 | -20 | 80 | 17 | 87 | 17 | 86 | 29 | 94 | 40 | 94 | 29 | 91 | 23 | 73 | 10 | 64 | -23 | 53 | -21 |
| Yellowstone | Billings | 57 | -35 | 59 | -20 | 75 | -4 | 87 | 22 | 91 | 24 | 92 | 36 | 98 | 40 | 95 | 42 | 94 | 23 | 77 | 7 | 76 | -19 | 56 | -15 |

Digitized by Google

## U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU
### Monthly Mean Temperatures, 1916.

| COUNTY | STATION | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | An. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beaverhead | Dillon | 7.0 | 26.6 | 39.9 | 44.2 | 45.7 | 53.9 | 61.6 | 60.8 | 55.2 | 42.9 | 32.6 | 24.0 | 41.2 |
| Carbon | Red Lodge | 4.2 | 24.0 | 34.9 | 38.0 | 41.2 | 53.0 | 64.0 | 59.2 | 50.5 | 34.5 | 25.7 | 13.6 | 36.9 |
| Carter | Ekalaka | 0.8 | 21.7 | 36.2 | 43.4 | 50.4 | 59.1 | 76.0 | 69.1 | 58.6 | 42.5 | 33.0 | 11.2 | 41.9 |
| Cascade | Great Falls | -3.0 | 20.8 | 39.1 | 46.4 | 49.6 | 58.6 | 67.3 | 65.4 | 56.2 | 42.4 | 35.4 | 15.4 | 41.1 |
| Custer | Miles City | -6.3 | 18.0 | 37.7 | 46.3 | 53.9 | 63.4 | 77.1 | 71.3 | 60.8 | 45.0 | 35.4 | 10.0 | 42.6 |
| Dawson | Glendive | -6.0 | 14.9 | 32.2 | 45.5 | 53.7 | 61.0 | 74.2 | 68.7 | 57.6 | 43.6 | 34.1 | 7.0 | 40.5 |
| Big Horn | Foster | -4.6 | 15.9 | 38.5 | 46.4 | 51.6 | 62.6 | 73.6 | 68.0 | 56.8 | 41.1 | 33.2 | 11.5 | 41.2 |
| Fergus | Lewistown | -3.1 | 22.0 | 40.0 | 41.6 | 45.3 | 55.2 | 65.6 | 63.0 | 51.6 | 37.6 | 29.2 | 11.2 | 38.3 |
| Flathead | Kalispell | 4.4 | 24.4 | 35.4 | 43.6 | 47.1 | 55.3 | 62.9 | 61.6 | 53.2 | 40.5 | 28.0 | 15.1 | 39.2 |
| Gallatin | Bozeman | 2.6 | 25.0 | 36.2 | 40.8 | 43.0 | 53.2 | 64.2 | 61.0 | 52.6 | 38.5 | 25.2 | 16.0 | 38.2 |
| Granite | Philipsburg | 5.7 | 22.6 | 34.8 | 40.8 | 43.0 | 52.1 | 62.6 | 59.9 | 51.7 | 39.4 | 24.8 | 17.7 | 39.8 |
| Hill | Havre | -13.3 | 14.2 | 34.0 | 43.8 | 49.4 | 59.3 | 68.3 | 64.9 | 55.4 | 39.9 | 31.5 | 7.0 | 37.9 |
| Jefferson | Renova | 5.8 | 27.7 | 40.8 | 45.4 | 46.9 | 56.2 | 65.2 | 62.6 | 55.0 | 41.6 | 30.6 | 21.2 | 41.6 |
| Lewis & Clark | Helena | 1.2 | 24.2 | 38.6 | 44.2 | 47.1 | 57.2 | 67.2 | 65.0 | 55.2 | 41.2 | 29.0 | 17.0 | 40.4 |
| Lincoln | Libby | 3.9 | 26.3 | 36.2 | 44.7 | 48.3 | 58.4 | 64.5 | 63.8 | 56.2 | 42.5 | 28.2 | 14.8 | 40.6 |
| Madison | Norris | 10.4 | 30.5 | 40.3 | 45.4 | 46.9 | 57.4 | 69.2 | 66.4 | 57.6 | 40.9 | 32.2 | 21.2 | 43.2 |
| Meagher | White Sul. Spgs. | -0.2 | 23.8 | 34.6 | 41.0 | 44.8 | 53.0 | 64.4 | 60.2 | 52.6 | 38.0 | 26.9 | 14.3 | 37.8 |
| Missoula | Missoula | 5.6 | 26.0 | 37.6 | 44.4 | 47.0 | 56.0 | 64.8 | 64.2 | 55.4 | 40.8 | 27.4 | 17.6 | 40.6 |
| Musselshell | Wheaton | -6.2 | 26.8 | 39.0 | 44.0 | 50.0 | 58.5 | 68.2 | 67.3 | 57.4 | 41.6 | 33.9 | 15.0 | 41.3 |
| Park | Livingston | 9.2 | 30.2 | 41.0 | 44.0 | 47.2 | 58.1 | 68.1 | 64.9 | 56.0 | 42.4 | 32.6 | 21.0 | 42.9 |
| Powell | Ovando | ..... | 21.4 | 36.6 | 37.0 | 44.9 | 55.3 | 65.8 | 63.3 | 53.4 | 42.8 | 29.1 | 14.6 | ..... |
| Ravalli | Stevensville | 8.1 | 26.5 | 38.3 | 43.6 | 45.4 | 55.8 | 64.6 | 62.6 | 53.8 | 42.5 | 27.0 | 20.0 | 40.7 |
| Sanders | Thompson Falls | 10.4 | 28.6 | 34.8 | 44.7 | 47.2 | 56.9 | 64.2 | 63.6 | 55.0 | 43.2 | 30.2 | 19.4 | 41.6 |
| Sheridan | Medicine Lake | -10.8 | 6.0 | ..... | 42.6 | 49.2 | 56.8 | 69.2 | 62.9 | 52.7 | 37.9 | 27.9 | 0.6 | ..... |
| Silver Bow | Butte | 9.8 | 27.4 | 38.4 | 41.8 | 42.0 | 52.5 | 63.7 | 61.6 | 53.4 | 39.9 | 26.7 | 18.4 | 39.6 |
| Stillwater | Busteed | 2.6 | 26.6 | 38.6 | 42.8 | 47.1 | 56.6 | 66.8 | 64.2 | 55.2 | 44.0 | 33.0 | ..... | ..... |
| Sweetgrass | Big Timber | 5.6 | 30.1 | 40.8 | 44.4 | ..... | 63.4 | 69.8 | 68.4 | 58.3 | 45.5 | 35.2 | 21.6 | ..... |
| Teton | Valier | -6.7 | 18.6 | 33.6 | 42.9 | 45.5 | 55.8 | 63.4 | 62.2 | 54.2 | 39.9 | 31.4 | 10.8 | 37.6 |
| Valley | Glasgow | -12.3 | 9.4 | 25.3 | 43.2 | 49.6 | 58.8 | 72.2 | 65.6 | 54.6 | 39.6 | 28.5 | 2.4 | 38.1 |
| Wheatland | Harlowton | -3.4 | 23.5 | 37.8 | 41.7 | 45.6 | 55.2 | 64.8 | 60.4 | 53.0 | 38.6 | 25.6 | 11.2 | 37.8 |
| Yellowstone | Billings | -0.2 | 25.6 | 40.5 | 46.0 | 51.8 | 61.4 | 71.6 | 66.8 | 55.6 | 41.8 | 32.7 | 14.5 | 42.3 |

Digitized by Google



Digitized by Google

# Montana's Game and Fish

## Mountains Teem With Big Game and Lakes and Sloughs With Waterfowl While Streams in All Sections Are Abode of the Gamey Western Trout

AS A RESORT for big and small game, no other state approaches Montana.

Montana covers approximately 150,000 square miles of prairies, mountain and wooded areas, watered by thousands of lakes and streams.

Its great mountain ranges are the habitat of elk, deer, mountain sheep, bear, mountain lion, bob-cat and numerous fur-bearing animals, including the beaver; its lakes and sloughs are the abode of all varieties of waterfowl and its grain fields and foothills the home of prairie chicken, pin-tail and blue grouse, pheasants and sage hen. It is not surprising, therefore, that sportsmen from all parts of the United States and in peace time, from Europe, come to Montana during the open season to enjoy the sport.

Despite years of relentless hunting by Indians and white men the game held its own with the exception of buffalo. In the early 80's the bison were almost exterminated and the pitiful remnants were taken over by the government and private individuals and have been slowly but steadily coming back. They are kept in Yellowstone National Park and have increased owing to the closed season maintained by the government and state. It is not too much to hope that at no distant date, they will have increased to such an extent that a limited number may be taken for food during a brief open season.

### Game Preserves in State.

There are ten game preserves in Montana and these together with the great national parks—Yellowstone and Glacier—are generally the retreat of the big game in the summer months.

The elk have increased rapidly the past few years, the three principal herds—the Gallatin, the Gardiner and the Madison—have an aggregate of more than 20,000 animals. Elk have also been "planted" in six or eight counties where they are protected under the law for an indefinite period. The larger herds in the vicinity of Yellowstone national park were counted by the federal and state authorities last spring, following the extreme hard winter of 1916-1917. The deep snows and the lack of winter feed caused a loss of about 14 per cent. The percentage of loss was higher than usual because the winter feeding grounds to which the animals have resorted for years, had been leased for pasturage during the summer months, when the elk make their home in the national park. Upon their return to the lower altitudes in the fall, they found their feeding ground denuded and descending into the valleys in search of food, the herd became scattered and many of the elk, weakened by hunger, perished in the deep drifts. The government and the ranchmen co-operated in furnishing feed so that an even greater loss was averted during the latter part of the winter.

While, as stated, there was a considerable loss of elk, the deer and antelope wintered well so that the taking of big game during open season remains unimpaired.

Digitized by Google

Elk Are Among Big Game Hunted Here

## Game Conservation.

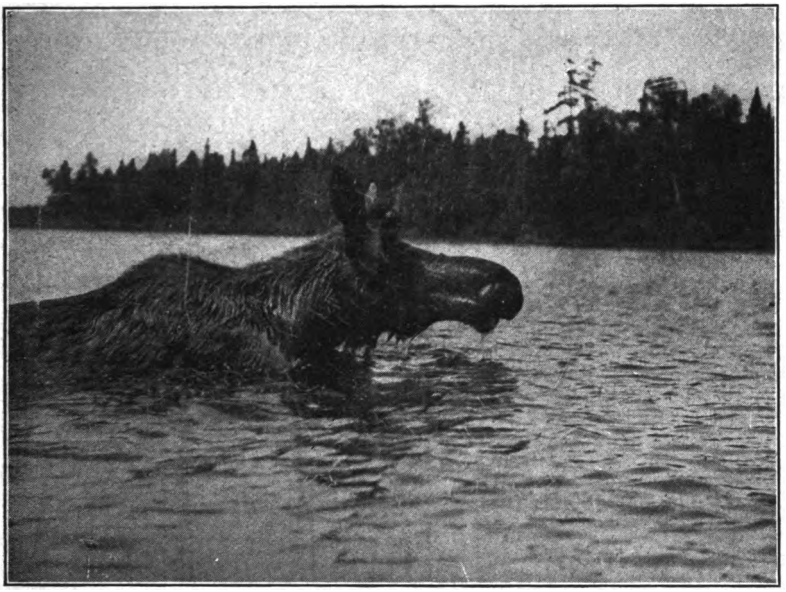
Montana has a game law which conserves the game. It is strictly enforced under a state game and fish commission. The commission, the warden and his deputies as well as the fish hatcheries are sustained solely from the receipts of sales of game licenses and from fines and confiscated game and weapons. It is empowered to add to the game by propagation and has done much "planting" in counties which afforded good feeding grounds, but from which the big game had been thinned by too persistent hunting. Its fish hatcheries produce millions of fry, distributed by the commissioners' fish car which is sent to all quarters of the state during the year.

Only one elk may be killed by any one person during the open season, except by special license in two counties where two may be taken annually. The season for shooting elk in certain counties is from October 1st to December 15th; in others from October 1st to December 1st, the latter dates being the open season for deer. There is no open season for antelope, buffalo, moose, caribou, mountain sheep and goats.

No better opportunity for the shooting of waterfowl exists in the United States than in Montana. The numerous lakes and sloughs teem with the birds. Some of the northern lakes are nesting places for the geese and ducks and as the state is on the route of the flight of the birds from the north to their southern feeding grounds, large numbers of the Canadian geese stop here to feed in the grain and corn fields. They usually remain for about three weeks in the fall.

The open season for waterfowl is from September 15th to December 1st. Not to exceed twenty ducks may be taken by any one person in a day. The same law applies to geese. Five prairie chickens, grouse or pheasants, patridges or sage hens may be taken in one day by one person, but not to exceed five of all

Digitized by Google



Moose Swiming Lake in Glacier Park

species may be in possession of the hunter. The open season is short—from September 15th to October 1st. There is a closed season on quail, which by propagation are rapidly increasing, especially in the northwestern part of the state.

**Sport With Danger.**

There is no closed season on bear, wolves, coyotes and cougars, which are listed as predatory animals. Bear are much sought during the months of April, May and June when their fur is prime. The animals are plentiful in the mountains of the northwestern part of the state, in the Rockies and in the counties adjacent to the national parks. They furnish great sport for the hunter and trapper, and in addition to the valuable pelt, there is the added spice of danger in hunting them during the early spring when they emerge from winter quarters, they are ravenously hungry and inclined to give battle when opposed in their search for food. The grizzly and "silver tip" are especially belligerent.

Mountain lion, the natural destructive enemy of deer and young stock, are much sought by professional hunters employed by the government. These hunters also roam the forests during the winter trapping and killing wolves and coyotes which prey upon stock.

In Montana the angler finds opportunity for the display of his skill among the gamey trout of the streams and lakes. There are several varieties of trout, and in a few localities, bass and Lake Superior whitefish.

The trout include the native black spotted or cut-throat, the steelhead, the eastern brook trout, the grayling and the Dolly Varden. Originally the grayling was found only in the streams east of the continental divide, but the commission of late years has successfully propagated the graying so that it is now a habitant of the streams of the western slope. The Dolly Varden is a native of the Pacific slope and attains great size. The Mackinac trout and the Lake Superior whitefish are found in two lakes, St. Mary's in Teton county and Elk lake in Madison county.

Digitized by Google

A Jack Rabbit Drive in Prairie Country

The brook trout, much in demand, grows to a goodly size, some specimens at the state fish hatcheries having attained a length of eight inches in one year, grown from fry.

### Re-Stocking the Streams.

There are two hatcheries in Montana, one at Anaconda on Georgetown lake and the other at Somers on Flathead lake. A hatchery will shortly be opened in Park county. The government maintains a hatchery at Bozeman in Gallatin county. Twenty millions of fry of eastern brook, spotted and rainbow trout and grayling are annually sent out to re-stock the streams and lakes. The supply is considerably augumented by private hatcheries. Accordingly, practically every stream in the state affords good sport.

The game and fish districts of Montana are not subject to private leasing by native or foreign residents as is the case in some of the eastern and Pacific coast states. All the vast territory is open to the public, subject only to the provisions of an exceedingly liberal game law.

Within the past year, through exchanges with Washington hatcheries, a considerable number of sock-eye salmon have been obtained and planted in land-locked lakes of Montana. An experiment with sock-eye a few years ago resulted successfully and the commission is encouraged to believe that the supply of good fish of the state will be added to by the salmon.

The limit of game fish for any one person in a day is 25 pounds. Fish may not be shipped outside the state, either by residents or non-residents.

"Game fish" as contemplated by the Montana game law, include mountain, rainbow, eastern brook, grayling, Rocky Mountain whitefish, steelhead trout, quinnat salmon, black bass and Dolly Varden trout.

Digitized by Google

# Paradise for Vacationists

## Glacier and Yellowstone Parks, Mountain Ranges, Beautiful Lakes and Trout Streams, and Primeval Forests Are the Resorts of Those on Recreation Bent

FOR SCENIC beauty, Montana is not excelled by any other state of the union. There are states which afford a limited amount of scenery to be compared favorably with a section of similar formation in Montana, but no commonwealth contains so much of scenic beauty of a diversified character.

Tourists lured here by the wonderful national parks, Glacier and Yellowstone, extended their pilgrimages to other mountain ranges, lakes and streams and were readily converted to the camp life which affords health and recreation to so many vacationists and the leisure class.

A vacation may be arranged in this state to suit any taste, ranging from the affluent citizen who desires to remain at a mountain hotel while enjoying tramps through the forests and along the trout streams or hunting of big game, to the person who favors wandering through the country, carrying by pack horse his blankets and frying pan and gun and fishing rod, bacon and flour and depending upon his prowess with rifle, shotgun and fishing tackle to keep him and his fellow vacationists in fresh meat.

### Yellowstone Park.

Probably the outside traveling public is more familiar with the national playgrounds, the two big national parks—Yellowstone and Glacier. The former has been frequented by tourists from the east and from Europe for a number of years; the latter until in recent years has been the resort for the lover of outdoors who desires to get away from the haunts of civilization and to enjoy the wilderness.

Years ago, before Yellowstone park was known to the tourist, Montanans and people from Wyoming were accustomed to visit this wonderland. The park was discovered and explored to some extent by a member of the Lewis and Clark expedition in 1806, but it was not until 1842 that the attention of the public was called to it by an explorer who published an article describing the geysers. Probably the real discovery of the park came in 1870 when Montanans lead by General Washburn toured the region and made public their findings.

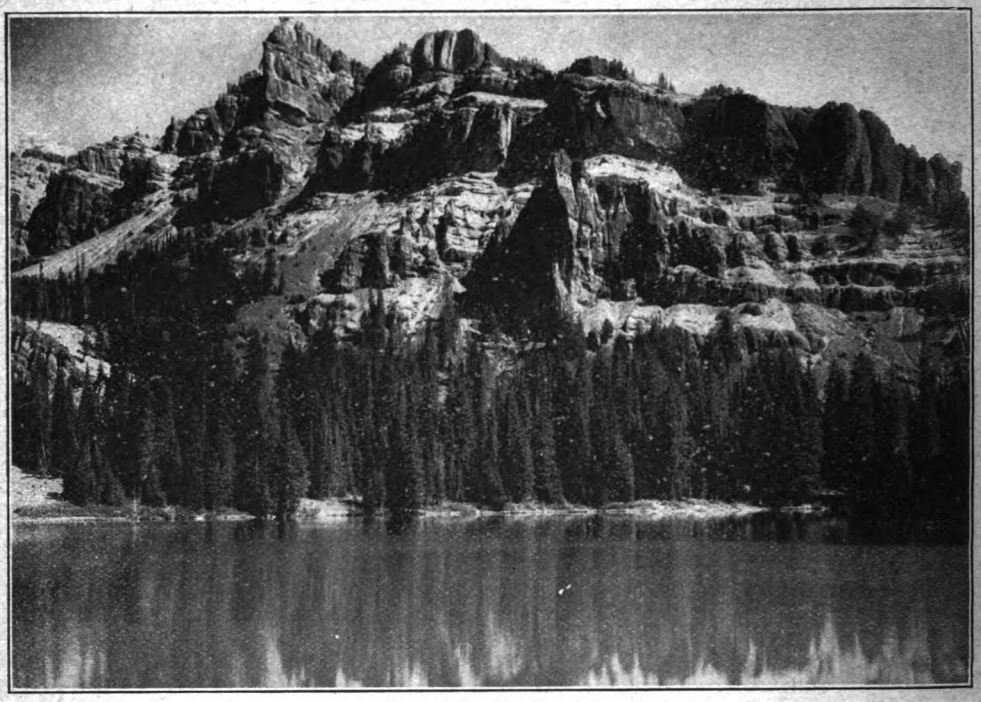
Because of this trip, a movement began which resulted in 1872 in the establishment of the region as a national park, with an area of about 350,000 square miles. The official entrance to the park is at Gardiner and was made the occasion of the dedication of a huge stone arch by President Roosevelt in 1903. The western entrance is at Yellowstone and vies in importance with the Gardiner entrance.

### Thousands Visit It.

Thousands of tourists from America and Europe have toured Yellowstone Park. The park abounds in varied wonders, and a month may be spent and not all the scenic beauty will be seen. The travel routes are arranged so that the sightseer may have a change of scene in viewing nature's marvels which abound so promiscuously.

Not long after entering the park at Gardiner, Mammoth with its hundreds of mineral springs is encountered. The spectral rocks and subterranean caverns are seen. The following day the tourist is in the heart of the geyser region, with its

Digitized by Google



Boating, Fishing and Mountain Climbing Here

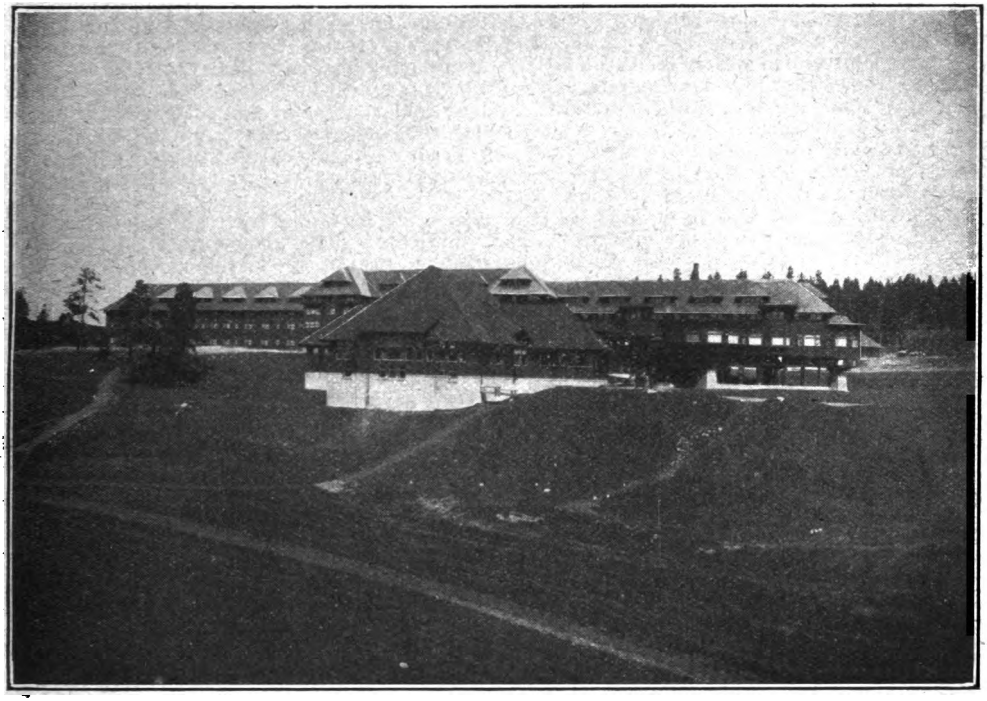
spouting springs, some sending their water to the height of a hundred feet to fall back again into a placid pool which gives no indication at the time of the tremendous forces beneath.

The route includes a trip across Yellowstone lake, 7000 feet above sea level. The next day the falls and grand canyon of the Yellowstone are encountered. The river drops 300 feet into a rocky chasm or canyon, the coloring of which has baffled every artist who has sought to paint it.

### Ways of "Doing" Park.

There are numerous ways by which the vacationist may see Yellowstone Park. Many "lazy" through it, camping when night overtakes them and by day delving into hidden wonders off the main trails and roads; others secure accomodations with a camping outfit which furnishes all the camp equipment and transportation by horse or wagon and feeds its company. The government has commissioned one camping company and awarded the hotel rights and transportation by automobile to another. Automobiles were admitted to the park within the past few years and the old stage coach, except with the camping outfit, is a thing of the past. The tourist may drive his own car subject only to the regulations made by the government. By following the hotel route the tourist is enabled by car to visit all the principal points of interest, and at the same time enjoy the conveniences of modern hostelries. The cost of a trip through the park is between $35 and $100, depending upon the character of the accomodations. The season is from June 15th to September 15th each year.

Digitized by Google



Grand Canyon Hotel in Yellowstone Park

## Glacier Park.

Glacier National Park was created by act of Congress in February, 1910, and this playground for the nation is becoming better known year by year. It lies in the northwestern part of Montana, its northern boundary being Canada, its eastern the Blackfeet Indian Reservation, its western the north fork of the Flathead River. The Great Northern Railway is the southern boundary and there are two entrances, Belton and Glacier Park Station.

Glacier Park is the newest of all the national play grounds and to many is the most alluring of them all, because it is for the most part as nature created it. It derives its name from the 60 or more living glaciers. The main range of the Rocky mountains extends from the south to the north and it is claimed that its mountain scenery equals the famed Alps of Switzerland. Within the past few years since a number of Swiss chalets and several large hotels have been built and connection made by an automobile road, thousands of tourists have visited the park. Some have braved the rigors of pack horse travel through the passes and over the continental divide and have fished in the streams and lakes of the upper mountain heights.

## Huge Glaciers Seen.

The largest of the glaciers is the Blackfeet, covering an area of nearly five miles square. There are mountain peaks from 8,000 to 10,000 feet high from which the snow never melts and the mountains teem with big game and the streams with gamey trout. The game, however, may not be shot for no firearms are allowed in the park. Fishing, however, is permitted as it is in Yellowstone Park.

Digitized by Google

Until a few years ago it was difficult to reach glacier-land over the mountain trails. Secretary Lane directed the construction of an automobile road to Lake McDermott, where there is a large, modern hotel, erected by the Great Northern Railroad Company which had much to do in opening the park to travel. At Glacier Park Station, the eastern entrance, a magnificent hotel has been built, costing a quartetr of a million dollars. Many Glacier hotel at Lake McDermott cost nearly an equal amount. The hotel at Glacier Park station is a huge log structure, unique among the inns of the world. Its great fire place, its roomy lobby, the walls of which are hung with trophies of the hunt, early day relics and Indian handiwork, make it one of the show places of the continent.

The beauty of the park and its mountain ranges make for the popularity of hiking trips and trips by means of pack animals. The opportunity to explore spots where the foot of man never has trodden is not to be overlooked by the adventurous and the trips over the glaciers and the mountain climbing are the delight of those who rough it. For those whose inclinations are not for tests of physical endurance, the roads which are traveled by automobiles and coaches are open, giving access to the wonders of the lakes and mountains and the scenic beauty of the place. Lake McDonald is fast becoming one of the summer resorts of the United States. Many people have erected summer homes there.

**Good Accommodations.**

Glacier Park is reached only by the main line of the Great Northern Railroad. Trips are obtained from $1 to $10 a day, depending upon the accomodations desired. As stated, there are hotels and permanent camps ample to accomodate the tourists and guides and pack trains are available for those who desire to explore the park, glaciers and the mountain fastnesses. The season is from June 1st to October 15th each year.

While the two great National Parks are more generally known to the outside public, there are many other places of equal attraction. Flathead Lake, the largest fresh water lake in the country, aside from the Great Lakes, is rapidly becoming a resort for summer colonies. The numerous islands are the location of summer homes and there is soon to be constructed a half million dollar hotel near Wild Horse Island. The lake is easily reached from Kalispell. The Kootenai River country through Lincoln county attracts many summer visitors and vacationists who enjoy the great forests and the fishing. The Blackfoot country in northern Powell county, the glaciers and mountains of Carbon county, the famous scenery of the Gallatin and the Lewis and Clark cavern in Jefferson county which is under the jurisdiction of the secretary of the interior, are points of interest. The various chambers in the cavern as far as explored extend for a distance of 700 feet horizontally and 350 feet vertically, but there are many openings and passages which have never been explored. These are only a few of the many scenic regions which attract the lover of out of doors.

Living Close to Nature During Vacation Months

Digitized by Google

# A Progressive People

## Montanans, Proud of Their Citizenship in the Treasure State, Energetically and Intelligently Building for the Future

NOT THE least of the many assets of Montana is the splendid character and broad vision of its citizenship. Montana was founded by the most virile blood the nation has produced. There were no weaklings among the early settlers of the great west. Of the pioneers who crossed the trackless plains to lay the foundations of this commonwealth it has been well said that none started but the brave and none survived except the strong. Few remain of the hardy band which brought civilization to Montana, but the forward looking vision with which they were inspired and the spirit of enterprise and progress which they typified have ever guided the destinies of the state and is yet dominant in its affairs. This vision and this spirit finds ready expression in the administration of public affairs and in the intelligence and energy which is now being devoted to the task of building a great state.

Much of the energy of the state has been and is being devoted to the development of its agricultural resources and every effort is being made to give to the Montana farmer in a practical and intelligent way, the benefit of the great advances which have been made in the farming industry and to assist him to make the greatest possible success of his calling.

Much recent legislation has been enacted for the benefit of the farmer. This legislation has taken the form of providing cheap long time loans on farm lands, providing hail insurance at actual cost, providing for the proper grading of grain and the strict supervision of elevators, and in furnishing trained county agents to personally assist the farmer in solving his individual problems.

### State Farm Loans.

Farm loans are made from the permanent trust funds of the state. These loans are made upon improved farm lands in sums of not less than $500.00 nor more than two-fifths of the appraised value of the lands offered as security. The loans are made for not less than three nor more than ten years, with interest at the rate of six percent, with the provision that ten percent of the principal or any multiple thereof, may be paid in three years from the date of the loan or at any interest paying period thereafter.

Although hail losses in Montana are not numerous, provision has been made for the insurance of crops against these losses. This insurance is provided, under recent legislation, by the state board of hail insurance, composed of the commissioner of agriculture and publicity, the state auditor and three representative farmers appointed by the governor upon the recommendation of the farmers' organizations of the state. Under the provisions of the hail insurance act any farmer may insure his growing crops against hail losses in sums not exceeding $10.00 per acre for grain crops. Losses are adjusted and paid subject to this maximum from funds derived from a pro rata assessment of the lands insured. Although this state insurance plan is in its infancy in Montana, the act has been

Digitized by Google

Montana Farm Scene in Prairie Country

taken advantage of by many farmers at a material saving over the hail insurance rates charged by the companies handling this class of business.

Farmers of Montana are insured honest grading of their grain through the medium of the state grain inspection department which is operated in connection with the state college of agriculture and mechanic arts. The supervision of elevators is under the direction of the state department of agriculture and publicity, which requires the bonding of all public warehouses receiving grain for storage and has general control over the marketing of grain in the state.

### Farm Organizations Active.

Another agency of progress in agricultural development along the lines of production, scientific and economic distribution and community social uplift, are the farm organizations of Montana.

Within a comparatively short time, the American Society of Equity has swept across eastern and northern Montana and in consequence a large number of co-operative farmers' elevators break the sky line from the eastern to the western border. The pace that has been set in this line of endeavor, if continued, bids fair to solve the problem of distribution.

With fewer members, perhaps, but with the same sincerity and zeal, the Farmers' Union, a branch of the big national organization is beginning work along lines which will result in great public good. Likewise the Grange, the old stand-by of farm organizations, has been in the field for some time working as conscientiously for the uplift and betterment of rural life as it did fifty years ago. The Union and the Grange are doing much to develop to the fullest extent, the social side of farm life.

Digitized by Google

An Orchard in the Bitter Root Country

Montana early took advantage of the provisions of the Smith-Lever county agent act, with the result at present, there is a county agent in every agricultural county in the state. These agents are men who are not only well trained in the science of agriculture, but are also well acquainted with Montana conditions. They are therefore able to extend valuable service to the thousands of farmers who have come into the state and are rapidly making a success of farming under conditions which in many cases, differed from those they experienced in their former homes. Here the effort centers around production not only of farm crops but livestock. A systematic study of agricultural problems is carried on and the agent going from one farm to another serves as an efficient medium of exchange for practical ideas.

**Fairs Stimulate Interest.**

Even where there are no recognized national farm organizations at work, community efforts in the way of progressive farm clubs are doing much to promote agricultural awakening. Add to these forces, the little groups of associations which are being formed under the National Farm Loan Act in various localities, it will be seen that agricultural advantages are being highly promoted in Montana.

Stimulus to constantly better farming is given through the agency of the state and many county and district fairs. The Montana State Fair, held each year at Helena, is a great state-wide agricultural exposition, which attracts visitors, not only from every section of Montana, but also from every state of the Union, and it is generally recognized as the leading agricultural show in the west. Practically every county in the state contributes generously to the exhibits at this annual event, which arouses intense interest and the keenest competition between the farmers of the various sections of the state. The state fair is regarded as an educa-

Digitized by Google

tional institution of incalculable value and its standing as such is indicated by a remark of the late James J. Hill to President Taft at the 1909 state fair, when the great railroad builder assured the nation's executive that this was the finest agricultural display he had ever seen.

## Capital Treated Fairly.

The people of Montana accord a generous welcome to outside capital and treat it with entire fairness, while at the same time insisting that capital be also fair with the state and bear its just share of the burdens of taxation. Every branch of legitimate industry is encouraged, while the people amply safeguard themselves with every necessary protection. A railroad and public service commission, elected by the people, regulates the rates of all public utilities and of common carriers; a "blue sky" law has been enacted to protect investors from fraudulent promoters; farmers are protecting their seed purchases by a system of free seed inspection; weights and measures and pure food laws are rigidly enforced; child labor is prohibited and truancy laws are enforced; the eight hour day is general in the mines, about the smelters, on all public and practically all private work. Practically all women employes are given an eight hour day by state law; an efficient administered workmen's compensation law is in successful operation at a lower administrative cost than that attained in any other state in the union. In short, the state has endeavored to make the square deal a part of the every day life of every citizen and to make impossible the exploitation of this generation at the expense of the next.

The people of Montana exhibit a deep interest in public affairs, and no state government has been more free from administrative scandals. The magnificent state capitol at Helena, built out of Montana sandstone and granite at a cost of $1,100,000 is universally regarded as a splendid monument to honest and efficient public service.

## Political Conditions.

Politically, Montana is always "doubtful" at election times, the balance of power being held by those who are not bound by party ties. The state is thus not only well protected from the abuses of unbridled political power, but it is also assured a strong sense of responsibility on the part of those entrusted to public office. In the first national election following statehood, Montana's electoral vote was cast for Benjamin Harrison, in 1896 and 1900 for W. J. Bryan, in 1904 for Theodore Roosevelt, in 1908 for W. H. Taft and in 1912 and 1916 for Woodrow Wilson. The present state administration is bipartisan, the elective officials being about equally divided between the democratic and republican parties.

The women of Montana enjoy equal suffrage, and the state has, and uses, both the direct primary and the initiative and referendum. Everywhere may be seen evidence of the effort which has been made toward making a cleaner, better state. Coupled with better wages and living conditions, may be cited the fact that gambling of all kinds has been suppressed and that the state has voted, by an overwhelming majority, to abolish the saloon on December 31, 1918. Thus Montana, while offering to the honest and energetic of all classes unequalled opportunity to better their condition in life, also strives valiantly and successfully toward that wholesome environment which makes life more worth living and without which success in a material way becomes scarcely worth while.

Digitized by Google

# For the Youth of Montana

## Unrivalled Facilities for the Education of the Boys and Girls, From the Common Schools to Institutions of Higher Learning

THE MAN and woman with a family, or the young couple who are contemplating making their home in "Montana—Land of Opportunity", will naturally inquire carefully as to the facilities for the education of children. The answer is they will find in Montana schools, from the lowest to the highest, equal to those found anywhere in the land.

The men who laid the foundation of Montana had in mind not the few thousand people then within the borders of the state, but the hundreds of thousands who were to come after them. They realized that to make Montana a state of homes, one whose citizens would be a state and a national asset, there must be provision for other than purely material development—that the education of the boys and girls must be provided for in a manner to secure the best results. The common schools are the basis of the educational system of Montana, and the provisions for them are such as to insure the best results.

When Montana was admitted to the sisterhood of states the common schools received as an endowment from the national government one-eighteenth of all the public land in the state, a magnificent heritage. This endowment is administered by the state board of land commissioners and under the state laws none of the land can be sold for less than ten dollars an acre. The trust has been so faithfully administered by the state that today there is in the permanent school fund more than $5,692,371.68. Of this amount $1,281,982.17 is on hand and awaiting investment. Already there has been invested $4,410,389.51 while not to exceed one-tenth of the land has been sold. These millions in the common school fund have been so wisely invested that the income is sufficient to give each school district, for every child of school age, a considerable sum each year to help pay the expenses of conducting the schools. This apportionment has grown annually, being $3 per capita in 1911, while in 1916, despite the large increase in the number of children, it was $5.25. The total of this distribution of the income of this permanent common school fund in 1916 was $810,991.50. Four-fifths of the common schools in Montana have six months terms, and in the cities the school term is nine and ten months. Under the state law four months is the minimum school term.

In addition to the money which is received by each school district from the permanent school fund, school districts levy a tax for the support of the common schools, the minimum being four mills and the maximum ten mills under the law.

### Secondary Schools.

In all of the larger cities of Montana there are high schools which are required to maintain a high standard, and in addition in seventeen counties there are free county high schools. These schools are the outcome of legislation enacted several years ago. The county high school buildings are modern, there is a four years course, and the standard required is as high as that of similar schools in the large cities.

Digitized by Google

The endeavor both in the grades and the high schools has been to secure and retain well equipped and competent teachers. To accomplish this good salaries are paid, with the result that the teaching force in the common and high school of the state is the equal of that in any commonwealth.

**Higher Educational Institutions.**

Rounding out the educational system of Montana are the institutions of higher education, consisting of the State College of Agriculture and Mechanics Arts at Bozeman, the University of Montana at Missoula, the State School of Mines at Butte and the State Normal School at Dillon. These institutions are unified under the designation of the University of Montana, with a chancellor as the director and responsible head. During the past year there has been a large increase in the student body at all of these institutions. The aim is to give the young men and the young women of Montana who desire a university course the opportunity to obtain one in their own state equal to any offered elsewhere, and at a minimum of expense.

Like the common schools, the institutions of higher learning are richly endowed. On the admission of Montana into the union much of the public domain in the state was allotted to them, the aggregate being now about 700 square miles. The revenues from this endowment, while large, are constantly growing. In addition, large appropriations are made by the legislature at each session for their maintenance.

The educational institutions of Montana are not confined to those supported by the state and more or less directly under its supervision and control. At Billings, in eastern Montana, the Polytechnic Institute offers facilities for students for higher training. At Helena there are two institutions of higher learning, Montana Wesleyan University, under the auspices of the Methodist Episcopal church, and St. Charles College, under the direction of the Catholic church. There is also a Catholic High school in Helena, a girl's academy, and a Deaconess school, the latter under the direction of the Deaconess Order of the Methodist church, where younger children are given a home and an elementary education. There is an academy at Missoula and one at Great Falls for girls and a boys high school at Butte, all under the direction of the Catholic church. There are also parochial and boarding schools in different parts of the state.

Ready For the Threshers in Gallitan County

Digitized by Google

# Church and Fraternal Organizations

## Before the Advent of the Gold Seeker in Montana, the Missionary Was at Work Among the Indians of the Territory

THE MAN or woman who comes to Montana to make their home, no difference in what section they may take up their abode, will not have to give up their church or fraternal organization affiliations. When the gold seeker came into the territory of Montana he found the Jesuit missionary had preceded him. Following closely the representative of the Catholic church came the Methodist missionary, then the Episcopalian, the Baptist, the Presbyterian, and ministers of all of the leading religious denominations. As the territory and state grew and towns sprung up, the little country church came into being. Where the population was scattered the bishops, the priests, the ministers, the missionaries traveled by team, on horseback, and by foot all over the land, holding services at ranches, or wherever a few people could be gathered together. They traveled hundreds of miles over trackless prairies and across mountain ranges, carrying the word of God to the miners and the settler, performing the marriage ceremony, christening the babies and holding final services over the dead.

These pioneer clergymen were real men, and they had to deal with their like. In the larger towns the largest room for assemblage was often the gambling hall. It was freely given them, and many a sermon has been preached in the early days in those places, while the proprietors were among those who helped give the "sky pilot" as they were called, the wherewithal to continue their work and build churches.

### Grow With the State.

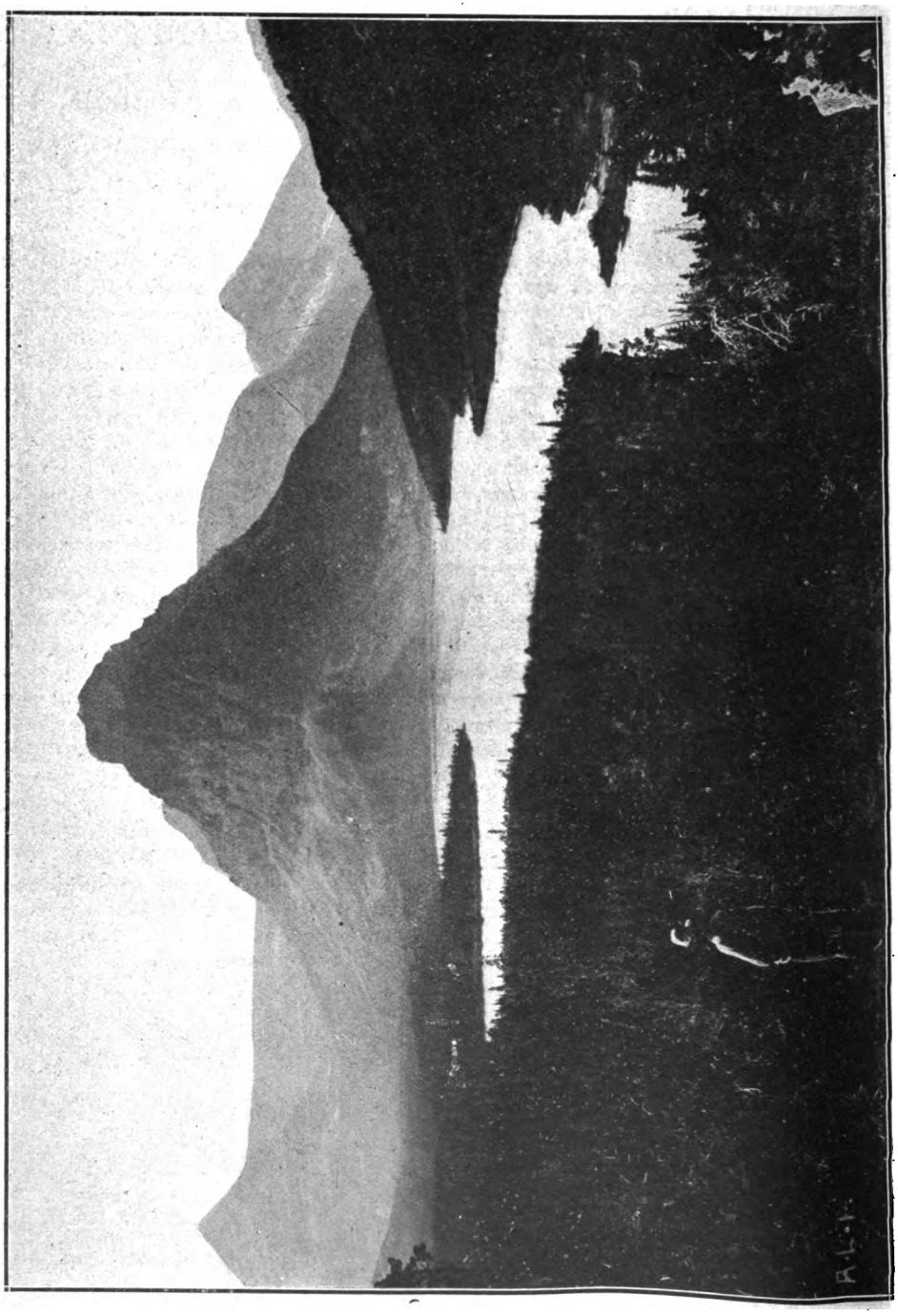
The school and the church progressed and grew with the territory and state, and today there is scarcely a denomination but is represented in Montana. Two Catholic bishops, one at Helena and one at Great Falls, a bishop of the Protestant Episcopal church and one of the Methodist church have their residences in the state. In all of the larger cities there are fine church edifices, and in the smaller towns a church building, in many cases the place of worship for different denominations, follows almost immediately the building of the school house.

In the leading cities are large and modern Young Mens' Christian Association buildings. There are hospitals all over Montana built through the efforts of some church and conducted by members of orders affiliated with them. Institutions for the care of orphan children, for the training of delinquents, are located in different parts of Montana. The church in Montana is today and has been since its first settlement one of the big factors in its development along right lines.

There is not a fraternal or beneficial organization of any prominence which is not represented by local organizations. The Masons were probably the first to organize in Montana and today that order has a magnificent temple in the capital city and others in different cities. It has a home for aged members and an exceedingly large membership. The Odd Fellows organized early in Montana, the order has grown with the state, and it has also a home for its aged members. The same story of growth may be told of all the other leading fraternal and beneficial organizations.

In coming to Montana and making it home no one need forego either church or other affiliations which have made the old abiding place attractive.

Digitized by Google



Before Churches or Lodges Came to Montana

Digitized by Google

# A Few Facts in Detail About Counties of the "Land of Opportunity"

## BEAVERHEAD COUNTY.

Beaverhead county, lying in the southern portion of the great Treasure State, is one of the oldest section of Montana and contains the first territorial capital—Bannack. It contains 5,632 square miles with a grand total of 3,604,480 acres, making it one of the largest counties in the state. The altitude varies from 5000 feet in the lower and most fertile valleys to 12,000 feet at the highest snow-capped mountain peak. The county extends from 50 to 75 miles in all directions from Dillon, the county seat with a population of 5,000 people, the greatest length from corner to corner being 150 miles. The total area of the county is greater than than of Connecticut and Massachusetts together.

Almost every description of land is to be found in Beaverhead county. The valley of the Beaverhead, the Redrock, Blacktail and other tributaries have fertile ranch lands on which graze hundreds of head of cattle, horses and sheep, every head of which spells prosperity. The great Big Hole basin to the west of Dillon is one vast hay meadow from which thousands of tons of wild hay are harvested every year and which feed thousands of beef and stock cattle. In 1917 over 20,000 head of beef steers were fattened for the market in the Big Hole Basin valley, bringing the record price of from 9 to 10 cents a pound.

Though smaller, the Grasshopper, the Horse Prairie and Centennial valleys are similar to the Big Hole Basin and every year graze and feed thousands of head of cattle and sheep.

Beaverhead county is perhaps the greatest livestock section of the northwest at the present time and is one of the few livestock regions that is holding its own against the inroads of the homeseeker and the land locator. This is made possible by the fact that the county is almost wholly surrounded by natural forests, affording protection to the livestock man, be he a grower of cattle or flockmaster and providing range for all. At the present, there is about 150,000 acres of land in the county that is open to entry.

Beaverhead county i sthe greatest wool producing section in the United States, four million pounds of wool being the clip in 1917. It is also the greatest beef producing section and one of the greatest cattle countries in the state. Next to Miles City, Dillon is the second greatest horse market in Montana and the United States. More hay is produced in Beaverhead than in any other county, particularly wild hay. Wheat grown by George Edinger in 1917 tested 60 per cent gluten. This county took the world's greatest laurels at the San Francisco exposition in hay and forage crops, in oats and potatoes.

The county contains many quartz and placer mines, many of which are just being developed. Phosphate beds are located here and oil has been struck. A cyanide mill was constructed at Bannack the past year and a narrow guage railroad is under course of construction in the Elkhorn district.

Dillon has four banks with deposits of over five million dollars. The Montana State Normal College is located here as well as the county free high school and a normal training school with an enrollment of over 1,000 pupils.

The assessed valuation of the county in 1917 was $9,352,334, and, according to the assessor's rolls, the county contained the following livestock: Horses, 13,401; milch cows, 998; other cattle, 73,609; sheep, 193,093; swine, 753.

## BIG HORN COUNTY.

Big Horn county came into existence January 13, 1913, by a vote of the people, out of a territory embraced in Yellowstone and Rosebud counties.

The county is watered by the Big Horn, Little Big Horn, Rosebud and Tongue rivers and their numerous tributaries, affording a well watered range for stock and and abundance of water for the 120,000 acres now under irrigation. Its streams are rapid running and most beautiful and where the waters of the Big Horn break from a snake-like canyon into the broad valley, is located a proposed dam.

Digitized by Google

At the head of the Big Horn valley, stands on the eve of construction the greatest single hydro-electric power development in the world. The minimum development of this dam is 210,000 horse power with a maximum of 800,000 horse power. It will also furnish water for the irrigation of 100,000 acres of land and when completed an electric railway will traverse the Big Horn valley its entire length, connecting the C. B. & Q. with the N. P. railroad. The Big Horn Canyon Irrigation & Power Co., incorporated by local people, have expended $165,000 in making surveys and diamond drill tests. The bedrock tests show splendid formation and this $16,000,000 enterprise is now assured.

Farming and stock raising are the leading industries. Farming began in Big Horn county with the opening of the ceded strip of the Crow Indian reservation in 1916, and the excellent quality of soil and favorable climate is being annually demonstrated by the first prizes captured at the state fair. All grain, grasses and vegetables that grow anywhere in the state make excellent yields here. In the valleys alfalfa and sugar beets are the leading crops, the yield of the former being from 3 to 6 tons an acre and the latater from 10 to 18 tons. Wheat is the great crop on the non-irrigated land, yielding from 25 to 55 bushels per acre. Oats, flax, barley and corn are very generally grown and all register good yields. Cattle, sheep and hogs are extensively raised profitably. For the past three years cattle from the white faced herd of F. M. Heinrich has topped the range cattle market, giving this county first place in range cattle production.

Vast deposits of coal are to be found in nearly all sections of the county, and when proper railroad facilities are developed, Big Horn county will be widely known for its annual coal output.

The only railroad is the Burlington, which runs along the banks of the Little Big Horn river from a point near the Wyoming line to Hardin, where it turns to the southwest and after a few miles enters Yellowstone valley which it follows to its terminus at Billings.

Hardin, the county seat, is the most important town, having a population of 1,500. It is situated 56 miles east of Billings on the Big Horn river. It has three banks, twenty-seven retail stores, lumber yards, grain elevators, flour mill, garages, telephone system, water, lights, sewer, and contract is now let for the paving of twenty-one blocks, which when complete, will make Hardin the most-up-to-date town of like size in the state. Its buildings are all substantial. The business section is built largely of brick, and conspicuous for its many attractive residences. The combined deposits of the three banks total upward of $1,000,000.

Big Horn county has a population estimated at 5,000, and property of an assessed valuation of $7,158,260.00.

Land Area: Big Horn county, which is in the Billings land district, embraces an area of 5,111 square miles, including 100,000 acres of unreserved and unappropriated public land available for entry under the homestead law, and 39,818 acres of state land. The remainder of the county is included in the Crow Indian reservation.

The following gives the estimated crop production for the year 1916: Wheat, 320,000 bushels; flax, 5,000 bushels; barley, 145,000 bushels; corn 40,000 bushels; oats, 400,000 bushels; potatoes, 150,000 bushels; hay, 55,000 tons; sugar beets, 17,000 tons.

This years assessor's rolls shows the following livestock: Horses, 6,430; cows, 973; other cattle, 68,489; sheep, 6,310; swine, 1,164.

For further information write Fred B. Gladden, secretary of the Hardin Community Club.

## BLAINE COUNTY.

When the Milk River Reclamation Project is completed, Blaine county will prove to be one of the greatest grain raising and dairying counties in Montana. Sugar beets are likely to be in much favor among the farmers.

The county was created in February, 1912, out of Chouteau county and is being rapidly settled.

Milk river, which is the source of the water supply for the county, traverses the county from west to east. To the north, extending to the international boundary, the land is largely rolling, intersected by streams. It is used for grazing purposes and goodly numbers of ranches are located there. South of the river

Digitized by Google

the country rises to the Bear Paw mountains in the western and the Little Rockies in the eastern part. Flowing north from these mountains foothills are many streams which join the Milk river.

Thousands of acres of the land which are not yet under irrigation, have been put into cultivation and the yield of grains and grasses and vegetables has been good. The irrigated lands in the Milk River Valley are among the most productive in the state, The development of this valley has been hindered somewhat by the delay in completing the project. When this is finished sugar beets are likely to be raised to a great extent, the county already having been promised a sugar factory.

Coal mines have been developed at Chinook, the county seat and there are mines in other parts of the county opened to an extent that they supply local needs.

Chinook is the largest town in the county with a population of more than 2,000. The place lies in the heart of an agricultural district, has a coal mine close by and business houses whose trade extends over a large territory. The town is substantially built and has banks, newspapers, good schools, elevators, creamery, and a number of churches. It desires a flour mill and a flax fiber mill, raw material for which is available.

Dodson and Harlem are two other towns of worth in the county. The former has thousands of acres of land tributary to it and when the irrigation project is in working order, the business of the place will be vastly greater. Harlem owns its own water system, fine homes and business houses, a newspaper and is a shipping point for a large territory. The county is in the Havre land district and something over 600,000 acres are available for homesteading. There are 165,000 acres of state land and 380,000 acres or more are privately owned. Wheat, oats, barley, corn, flax, potatoes, vegetables of various kinds and hay are raised in profussion.

The assessed valuation of the county in 1917 was $6,763,745 and according to the assessors rolls, the county contained the following livestock: Horses, 12,990; milch cows, 2,146; other cattle, 23,496; sheep, 145,684; swine, 978.

## BROADWATER COUNTY.

When resources include farming, mining, stock raising, dairying and fruit raising, a county is fortunate. Broadwater county includes all these and accordingly is one of the sections where people are proud of their post office address.

The county takes in the upper Missouri river valley and was created from portions of Jefferson and Meagher counties in 1897. The Big Belt mountains form the eastern boundary and a lower range forms the western. Streams rising in both ranges flow into the Missouri river, the irrigated agricultural districts lying in the Missouri and Crow Creek valleys. In these sections thousands of acres are under ditch and the chief crops are wheat, oats and alfalfa, timothy and blue joint hay.

The upland sections are farmed and yield large crops without irrigation. These lie largely in the northern part of the county adjacent to Three Forks. Winter wheat, barley, oats and alfalfa are the chief crops on non-irrigated lands.

Potatoes are a big crop, yielding from 300 to 400 bushels an acre, and the cereals are much sought after for seed and by milling firms. The soil is a productive loam. Raw lands may be bought at a low price and many of the big ranches have been split up into farms and disposed of. The raising of fruit is attracting attention. All small fruits produce well and apples in the older orchards are profitable. Many varieties are grown.

Livestock is practically of equal importance with farming. The mountains and foothills and forest reserves afford fine pasturage and the production of hay guarantees sufficient feed for the winters. Sheep have been the source of fortunes for many Broadwater county men. The herds of blooded stock—cattle, horses, sheep and hogs—are among the best in Montana. Its horses are known everywhere. Swine raising has proved a success and there are herds of pure-bred Poland Chinas, Berkshires, Duroc and Chester Whites. The wool clip brings a large amount of money to the ranchman annually.

Dairying, for some time, has been a paying business. Farmers organized a creamery some years ago at Townsend and the output now averages more than 200,000 pounds of butter annually. A flour mill was erected at Townsend and its product finds a ready sale in the markets of Butte and Helena, which are within short shipping distances of Broadwater county.

Digitized by Google

The mining districts are at Radersburg and Winston, where annually thousands of tons of ore are shipped to the smelters. The mountains are highly mineralized and the industry is showing gratifying increases as time passes.

The principal town is Townsend, which is also the county seat. It is located where the Northern Pacific crosses the Missouri river. It has excellent schools, churches, electric light plant, waterworks, and a sewerage system, volunteer fire department, two newspapers, elevators, flour mill, creamery, cigar factory, many retail stores, handsome residences and in fact is a modern little city of perhaps 1500 people. Opportunities are offered for an alfalfa mill and a pottery and cement factory.

Toston is a shipping point for the mining camp of Radersburg, 11 miles away, and also for the grain growers and stockmen in that section. Winston, 21 miles from Helena, is a supply point for the mining district and stock growers.

The area of the county is 1,248 square miles and the county is within the Helena land district, with more than 100,000 acres of homestead lands and 21,847 acres of state lands.

The assessed valuation of the county in 1917 was $3,637,140 and according to the assessor's rolls the county contained the following livestock: Horses, 5,650; milch cows, 1,548; other cattle, 12,155; sheep, 40,873; swine, 1,126.

## CARBON COUNTY.

Carbon is the central county of Montana's southernmost tier. Its topography, and consequently its climate, range widely from the fertile river bottoms where corn and canteloupes are successfully matured, to the glaciers of the Beartooth and Granite mountains. The lowest altitude of the county is about 3,000 feet, at the confluence of the Clarks Fork with the main stream of the Yellowstone; and the highest is the summit of Granite Peak, 12,950 feet—the highest point in Montana. From the Yellowstone and Clarks Fork valleys, the terrain slopes gradually upward in level and rolling prairies, until it breaks abruptly against the wall of the Beartooth Mountains that traverse the southwestern quarter of the county from northwest to southeast.

Resources, developed and in posse, are mineral, agricultural and industrial. Of the minerals, coal is first, the supply being practically inexhaustible and of a high grade, semi-bituminous quality. The county's production for the year ending October 31, 1916, was 1,618,579 tone, of which the mines at Red Lodge produced 1,042,065 tons. An annual payroll of about two million dollars is supplied by the coal industry. Precious and semi-precious minerals are present in the mountains, deposits of copper ores being heavy but in a backward stage of development owing to inadequacy of transportation facilities.

The Beartooth National Forest contains, within Carbon county, large stands of soft timber, undeveloped commercially except for the business of supplying the coal mines with prop timbers.

Oil development in the southern part of the county are passing the experimental stage. Several wells are drilled and capped, and considerable capital, local and eastern, is at work in the expectation of an important production of wealth from this source.

Agriculturally, Carbon county is a rich district, mainly characterized by hay, grain and stock. Natural range lands are still grazed, and cultivation of the soil has been rapidly increasing of late years, the growth of the county, estimated at twenty-five percent in five years, being for the most part agricultural in population and development. Farming is equally successful with and without irrigation. With a precipitation of eighteen to twenty-two inches, "dry" farming is not really dry. Yields of unirrigated wheat are conservatively estimated to average forty bushels for a good, not at all fancy crop, with other grains in proportion. Yields of over seventy bushels of wheat have been reported; but with freak records, though true, the investigator is not concerned.

Livestock standards are high, notable herds being the Herefords of Mrs. C. W. Wright at Luther; the sheep of F. L. Clark and of John Tolman in the Clarks Fork valley, where also Arthur Hunter specializes in fine Poland China hogs; the Percherons of A. J. Kerber and the Percherons and mules of C. A. Whitlock, at Joliet.

Sugar beets are an important crop in the lower or northeastern section of the county. The market is at Billings, where a sugar factory is located.

Digitized by Google

Prices of land are low in Carbon county, productiveness and markets considered. Relinquishments may be had for from three to ten dollars per acre; deeded land, dry, fifteen to twenty-five dollars and deeded land, irrigated, twenty-five to one hundred and twenty-five dollars.

The assessed valuation of the county in 1917 was $7,611,973 and according to the assessor's rolls, the county contained the following livestock: Horses, 9,305; milch cows, 3,220; other cattle, 23,558; sheep, 26,408; swine, 3,576.

## CARTER COUNTY.

Carter county, which is one of the two latest counties formed in Montana, was created at the last session of the state legislature by a special act, dividing Fallon county. The bill was introduced by State Senator Oliver, to designate its boundaries, provide for its organization and government and to change the boundaries of Fallon county to conform thereto. The bill passed the senate and house and became a law, without the signature of the governor, February 22, 1917, having remained in his possession five days, required by the state law.

To create Carter county, 3,318 square miles were taken from Fallon county, leaving the latter 1,685 square miles as area.

The greater part of Carter county is given up to grazing, and until very recently has been essentially a cattle country. However, great numbers of settlers have been flocking to this county, putting considerable land under cultivation, and have proved that it is adapted to the raising of small grains. Inasmuch as nearly all of the land is adaptable to agriculture it is destined to be one of the principal agricultural districts of Montana.

Although the mineral resources of Carter county are practically unexplored, there are large deposits of lignite coal. Numerous coal mines are in operation. The farmer or homesteader can go out a short distance and get any amount of wood and coal. There is also a large amount of fine building stone and no doubt many other mineral deposits as yet undisturbed.

The Sioux National Forest Reserve in the northern part, includes about 40,000 acres of pine timber. Numerous saw-mills are in operation, furnishing nearly all of the building material with the exception of finishing lumber, that is used in the county. This forest is rich in scenic beauty and good roads have been cleared through it.

There are great possibilities for the home-seeker in Carter county. There is still considerable land open to homestead entry. Improved and unimproved land can be bought at low prices, building lumber and winters fuel supply are easily obtainable, water of the finest kind is not hard to get and numerous streams and springs abound. Combined with all this, the climate is good and the growing season long.

Ekalaka, the county seat, is centrally located in a productive section of the county to the north of which lies the Beaver Flats, a large level tract of fertile land which the Beaver Creek and its branches makes particularly desirable.

The town is building rapidly, county buildings are being erected. It offers many opportunities to business men, and the surrounding country has many points of interest to the visitor or tourist. The famous Medicine Rocks with their queer legends are to the north, the pine forests to the east and the Chalk buttes to the south. No other country furnishes a larger field of opportunities for the man with little capital or large capital.

The estimated population of the county is 5,000.

The assessed valuation of the county in 1917 was $3,100,652, and, according to the assessor's rolls, the county contained the following livestock: Horses, 12,035; milch cows, 2,683; other cattle, 26,116; sheep, 50,335.

## CASCADE COUNTY.

Cascade county, located in the northern central part of the state, is one of Montana's richest counties and the second in size and population. It has rich mineral and agricultural resources, a great available water power, and is fast developing into a manufacturing and commercial center.

The temperature is moderate. To modify the winter's cold there are the Chinook and warm winds, and the cold spells of the winter are usually of short duration with the dry, calm atmosphere which makes zero weather felt less than twenty degrees above in humid localities.

Digitized by Google

Farming, live stock and wool, mining and smelting are the chief industries. The soil is very fertile, and a common yield on non-irrigated lands is from 20 to 60 bushels of wheat, 40 to 100 bushels of oats, 20 to 60 bushels of barley per acre, with other crops in proportion, and on irrigated lands the yield is greater and more uniform. Hay, vegetables of all kinds and bush fruit are uniformly grown. Extensive irrigation districts are in the Missouri, Sun and Belt river valleys. Coal is mined in abundance in different sections and there are mines of lead, silver, copper, zinc, gold, gypsum and other minerals in the county.

The principal cities of the county are Great Falls, Cascade, Belt and Stockett.

Belt, with a population of about 2,000, and Cascade with about 900 population, are in the midst of prosperous farming sections. At Belt are locatetd some of the largest coal mines of the state. The cities have electric lights, water works, good schools, elevators, churches, banks, opera houses, business houses and weekly newspapers. Stockett is in the midst of a thriving farming community and has large coal mines.

Great Falls, the county seat, is the principal city in Northern Montana and the second in size in the state. It takes its name from the great natural resources with which it is endowed by the falls of the Missouri. In seven and one-half miles the Missouri river, with a mean low water flow of 3,500 second feet, drops 535 feet over a series of falls and rapids. At the head of these falls and where the Missouri, Sun and Belt river valleys join is located the city of Great Falls. From a population of 13,948 in 1910 it has grown to an estimated population of 38,000 in 1916. The site was chosen for its natural location, the city was planned on generous lines and it is the natural trading point for a great, fertile, and rapidly developing section. Already 165,000 horsepower of electrical energy is developed at Great Falls and distributed to points throughout the state, and there are yet 200,000 horsepower undeveloped.

Extensive copper and zinc smelters employ a great number of men whose earnings contribute materially to the business of the city. Here, also, are located the largest packing plant between St. Paul and the coast and two large flouring mills with a daily capacity of 5,100 barrels, in addition to more than fifty other manufacturing establishments.

Great Falls has all the improvements and conveniences of a modern, growing, western city. Its seven banks have deposits totaling $14,353,473. With street cars, electric lights, sewer, paved streets, parked avenues, two daily newspapers, the city is a pleasant place of residence. The United States Land Office and office of Collector of Customs for Montana are located here.

Cascade county has an area of 3,411 square miles and an assessed valuation of $35,554,769. There are 455,121 acres of grain land, 837.991 acres of other land. A total of 1,293,112 acres were assessed. There are 86,725 acres of state land and 421,242 acres of National forests in the county. The estimated population of the county is 50,000.

For further information regarding Cascade county write A. J. Breitenstein, Secretary Commercial Club, Great Falls, Montana.

The assessed valuation of the county in 1917 was $35,554,769, and, according to the assessor's rolls the county contained the following livestock: Horses, 13,333; milch cows, 4,994; other cattle, 43,348; sheep, 107,929; swine, 4,128.

## CHOUTEAU COUNTY.

This county, which was one of the original counties of the state, was once as big as any one of several New England states, but was cut down by the formation of Hill and Blaine counties in 1912 leaving Chouteau with an area of 4,594 square miles and a small population. The county, however, was quickly filled and is now richer and boasts of a larger population than it had before two counties were carved out of it.

Stock growing was its chief industry for years, its prairies and foothills swarming with cattle and sheep. There are still a goodly number of stock ranches, but farming, which was relatively unimportant, has made great advances since 1912, when the division occurred. The bench lands have been settled and good grain crops grown. Along the streams there are irrigated tracts which yield bountifully. Homesteaders have swarmed in but there is yet some good land to be had—nearly 400,000 acres being subject to entry at the Havre and Great Falls U. S. land offices.

Digitized by Google

The county is well watered, the Missouri river entering from the south, flowing northeast about sixty miles and making a great turn to the southeast. The Teton river enters from the west and the Marias river from the north and join the Missouri near the center of the county. Arrow river forms a part of the boundary on the southeast and in the southwest are the Highwood mountains from which flow the Highwood and Shonkin creeks and tributaries of the Belt river. The Bear Paw mountains are in the northwestern part of the county.

There is much of historical interest in connection with Fort Benton, the county seat, a town with a population of upward of 2,000.

The town, before Montana was organized as a state, was an important fur trading post at the head of navigation of the Missouri river. The gold discoveries made it a big trading center, for from that point much of the freighting was carried on to the mining camps. Steamers starting from points as far south as St. Louis and Kansas City brought provisions and passengers to the new country. Stage lines worked out of the town carrying passengers to Virginia City and other points and freighting teams hauled tons of supplies to the interior. When the railroads entered the state the town lost its commercial importance to some extent, because the river steamboat service was then abandoned.

Bort Benton is still an important business place, the center of the livestock and farming industries of the county. It has three churches, two banks with deposits of $1,500,000, hotels, excellent schools, water and sewerage systems, two newspapers, court house and substantial business blocks and beautiful homes. Geraldine, a town on the Milwaukee from Great Falls to Lewistown, and barely four years old, has grown rapidly and is a thriving place. A great wheat raising section surrounds it.

In addition to the homestead lands there are about 276,000 acres of state land and more than 6,000 acres of national forests.

The products are wheat, flax, oats, barley, potatoes, hay, vegetables, beef, mutton and wool.

The assessed valuation of the county in 1917 was $12,485,139, and, according to the assessor's rolls the county contained the following livestock: Horses, 18,017, milch cows, 4,629; other cattle, 21,161; sheep, 59,620; swine, 3,211.

## CUSTER COUNTY.

Custer county ranks among the "top-notchers" of the state. It has rapidly changed from one of the largest cattle counties to a county of diversified farming. No longer do vast herds roam at will over the range. Their course of travel is blocked by miles of three and four strand barbed-wire fences. Farm houses dot the great areas which were once used by the long-horn and the white-face.

The county, like many others in the state, has been cut down by organization of new counties, notwithstanding which fact, the present area contains population that the county had in its original form and vastly more wealth. It is one of the fastest growing counties of Montana.

The county is well watered by the Yellowstone river which flows through the northwestern part and by the Tongue and Powder rivers which rise in Wyoming and drain the southern part. Mizpah river is a tributary of Powder river and Pumpkin creek of Tongue river. All these streams have valleys of varying width, back from which extend bench lands.

Hundreds of acres of wheat, oats, flax, rye, barley and corn have been planted and are being planted where in former years cattle reigned supreme. Silos are being built, dairy herds are being installed. It has been said that "corn fills the silos, silos the cows, cows the separators and separators the creameries" and butter fat brings a big price. The separated milk is left on the farm to feed the pigs and chickens. This branch of farming is one of the most profitable in the county.

Nearly every grain, vegetable and fruit known in the northwest part of the country grown in Custer county. Oats, wheat, barley, rye, corn, cabbage, rutabagas, pumpkins, squash, peppers, egg-plant, tomatoes, cucumbers, peas, beans, celery, are a partial list. Its exhibit at the State Fair annually is one of the big attractions from an agricultural standpoint. Watermelons and canteloups grow to perfection and strawberries of fine flavor find a ready market. Peaches, pears, apples, crab-apples, currants and raspberries do well.

841126
Digitized by Google

Alfalfa is a leading crop and horses and cattle thrive on it. Three cuts a year are harvested. Oats yields from 50 to 100 bushels and wheat has yielded as high as 50 bushels an acre.

The county offers exceptional opportunities for the tiller of the soil who has enough money to buy land at a reasonable price, put up his home and start farming. Eastern markets are easily reached and the best prices are paid for produce.

The chief town is Miles City, which is also the county seat. It is located at the junction of the Tongue and Powder rivers and is an up-to-date city of more than 8,000 people. It has two daily and three weekly newspapers, a number of manufacturing plants, retail and wholesale stores. It is the distributing point for a large territory, ships more horses, cattle, sheep and wool than any other town of its size in the country and is a division point for the Chicago, Milwaukee & Puget Sound railroad with a big payroll. Miles City is the greatest primary horse market in the world. The stockyards embrace 50 acres and auctions are held every month. Near the city is Fort Keough, an army remount station, where many horses are purchased yearly and trained for cavalry service. With the beginning of war, Miles City has been a favorite purchasing point for horses for foreign armies.

The climate is similar to that of Wisconsin, with a mean temperature of 44 degrees. The altitude is about 2300 feet, severe storms are rare. In an average year, 175 days are clear, 125 are partly cloudy and from 65 to 80 days are rainy. The normal rainfall about 15 inches falls largly during the growing season. Cottonwood and ash trees grow near streams and pine and cedar in the hills. The county is underlaid with lignite coal which provides cheap fuel.

There are about 1,500,000 acres of unapproved lands in the county subject to homestead entry, with probably 50,000 to 60,000 of this tillable. Most of the homestead land close to railroads have been taken up. A man who has $2,500 or $3,000 can buy a piece of land close to market which will bring him excellent returns. There are more than 205,000 acres of state land, which has been selected with an eye to its availability as farming land. This may be bought at auction for a reasonable amount. Probably 340,000 acres are in the forest reserves. Custer county desires to go into sugar beet raising and a canning factory is also needed to take care of the large amount of vegetables raised there.

The assessed valuation of the county in 1917 was $15,971,428, and, according to the assessor's rolls the county contained the following livestock: Horses, 26,819; milch cows, 372; other cattle, 78,490; sheep, 64,917; swine, 1,631.

## DAWSON COUNTY.

This is one of the largest counties in the state, having a total acreage of 2,085,974 acres, out of which 651,667 acres are unsurveyed. It is located in the extreme east and semi-plain region of the state. Formerly Dawson county was one of the leading localities in the west for the production of stock and most particularly prominent for its large production of wool. Of recent years stock raising and wool growing have steadily given way to diversified farming. As the old range is rapidly fenced up, the large live stock companies and ranches have been replaced by smaller farmers, who are importing a better grade of live stock and are producing crops of corn, flax,wheat and oats which were hitherto considered impossible.

The climate and soil conditions of this district have proved astonishingly adapted to the raising of all kinds of small grains. The soil is a dark sandy loam with a heavy clay subsoil, producing an abundant and nutritious covering of grass, which gave to eastern Montana the fame it enjoyed for many years of being the greatest "long grass" country in the Union. It is proverbial that where you find good grass there you will also find good soil, and it is a theory that has never yet been disproved. The altitude—a trifle over 2,000 feet—is also an advantage from the standpoint of the scientific agriculturists.

In 1916 approximately 900,000 bushels of flax, wheat, oats and barley were shipped from Glendive, the county seat, alone. The average yield of wheat per acre is varied, of course, with the seasons but yields from 25 to 40 bushels per acre are common, oats run from 50 to 85 bushels per acre and flax will average from 8 to 15. There were also 75 carloads of potatoes shipped to eastern markets from Glendive in the fall and winter of 1916. As high as 400 bushels of potatoes have been raised on one acre of unirrigated land and this product is becoming one of the prominent money makers of the county. The potato grown in this district is a large mealy variety and has brought the highest price on the Twin

Digitized by Google

City and Chicago markets. While a few years ago it was not believed possible to grow mature corn in this territory, the average farmer is pro-rating his crops of corn in proportion to that of small grains. In 1915 Dawson county won the first and second prizes on Northwestern Dent corn at the St. Paul Corn Show. In December, 1916, at the First National Corn Show, held in St. Paul, Minnesota, Dawson county took two first and two second and three third prizes.

Glendive is the largest town in the county and is the county seat. It has a population of more than 5,500. From formerly a straggling frontier town of log cabins it has evolved in a few years to a modern city with substantial business blocks and beautiful homes, paved and graveled streets and lighted by electricity and natural gas. It owns its water plant. Gas is piped from a well 12 miles away in the Cedar Creek country. It is the operating center of 500 miles of railway and the headquarters of the Yellowstone division of the Northern Pacific. Five hundred men are employed in the various departments of the company and the annual payroll is about $800,000. A new depot to cost $85,000 was begun in May this year. The N. P. hospital costing $125,000 is here. Three grain elevators and a flour mill of 200 barrels capacity are among the local enterprises which help handle the wheat and grain. It has excellent schools and several private hospitals and five churches.

Among the other towns in the county is Circle of 800 inhabitants on the new line now under construction by the Great Northern. It has two banks and a number of prosperous business houses and is located in the famous Red Water Valley, having some of the finest agricultural lands in the state. Among the other towns are Fallon, Red Water, Richey, Jordan, Intake, Bloomfield and Lindsay.

The assessed valuation of the county in 1917 was $15,951,190, and, according to the assessor's rolls the county contained the following livestock: Horses, 29,733; milch cows, 3,244; other cattle, 36,134; sheep, 93,342; swine, 3,631.

## DEER LODGE COUNTY.

Like Silver Bow county, Deer Lodge county is small but rich. Likewise it is chiefly noted for its mineral wealth although truck gardening, farming and fruit raising are conducted successfully on the limited amount of agricultural ground.

The county has been whittled down by the formation of new counties. Its territory embraces a part of the valley of Deer Lodge river, where there are ranches of considerable note.

The chief industry is copper smelting. At Anaconda is located the Washoe smelter, where thousands of men are employed at the highest wages paid for this work in the country. The smelter is said to be the largest and most modern ore reducing plant in the world and reduces about one fourth of the copper mined in the United States. The ores are transported to the smelter direct from Butte, over an electrically operated railroad 28 miles in length. The Butte, Anaconda and Pacific road was built especially for the purpose of this traffic. In connection with the smelter there is a large sulphuric plant.

Anaconda, the county seat, is a city of about 20,000 and was founded by Marcus Daly. It has grown into an attractive town, with large modern business blocks, theaters, a daily newspaper, and a great hotel, which would be notable in a city of ten times the size of Anaconda. The Montana State Fish Hatchery is located at Washoe park.

The population of Deer Lodge county is largely centered in Anaconda, at the base of the mountains. In the mountain section are placer and quartz mines, extensive forests and scenic beauty spots which attract the eye not only of tourists but the people of Montana who take advantage of the good roads in that section. The Butte, Anaconda and Pacific railroad recently has extended its lines to Georgetown where the mineral discoveries indicate that it will become a great mining district.

At Warm Springs is located the state asylum for the insane, costing $500,000 or more. On the farm attached to the institution, is maintained the finest herd of pure bred Holstein dairy cattle in the state.

The head of Deer Lodge valley, located in this county is noted as one of the best developed and richest agricultural sections in the state. The markets of Butte and Anaconda absorb all the farmers and gardeners can produce. Live stock raising is carried on, too, to a considerable extent.

The area of the county is 746 miles and has some 36,000 acres of homestead land and 9,471 of state land. More than 300,000 acres are in the national forests, affording pasturage for live stock during the summer season.

Digitized by Google

Wheat, oats, barley, potatoes, hay and all manner of vegetables and a considerable amount of fruit are among the products of the county.

The assessed valuation of the county in 1917 was $11,216,313, and, according to the assessor's rolls, the county contained the following livestock: Horses, 1,712; milch cows, 400; other cattle, 3,335; sheep, 1,704; swine, 188.

## FALLON COUNTY.

When the legislature at its last session, passed a bill which became a law afterwards without the governor's signature, creating Carter county, Fallon lost 3,318 square miles of territory and a considerable number of its population. It was left with an area of 1,685 square miles but close to 8,000 of its people remained outside Carter county's limit. Additions to that number have been made during the year owing to the discovery of gas and strong possibilities of petroleum being found in commercial quantities.

Fallon county, though somewhat cut down in territory, is still one of the best in the state. Wibaux county bounds it on the north, North Dakota on the east, Carter on the south and Prairie county on the west.

The county is largely agricultural with a considerable amount of stock raising as a side industry. It is watered by a number of streams, Bennett creek being the largest. Farming is on non-irrigated tracts and where once only cattle and sheep roamed, the ground is covered by vast waving grain fields. The yield has been large.

Baker the county seat and principal town is located on the Chicago, Milwaukee & St. Paul railway and is a growing town, with a population of more than 2,000. Discovery of gas wells, which heat the town, has added to the population materially and a flax tow mill is turning out a goodly product which stimulates the raising of flax. Corn is a crop and oats is a big yield.

Kingmont and Westmore are other towns on the railroad which are thriving and promise to be rivals of the county seat. The population of the county is about 8,000.

The assessed valuation of the county in 1917 was $5,804,009, and, according to the assessor's rolls, the county contained the following livestock: Horses, 10,488; milch cows, 19; other cattle, 17,766; sheep, 6,882; swine, 1,292.

## FERGUS COUNTY.

Probably no county in Montana offers a more fertile and profitable field for agriculture and stock raising than Fergus. Fergus is in the very center of the state and almost every agricultural growth favored in a temperate zone finds hearty encouragement in its soils. Stock raising has always been a feature in the prosperity of this region.

In the past ten years agriculture has supplanted every other industry in importance. The famous Judith Basin, which comprises the western half of the county, is now known as one of the important wheat producing sections of the world. Its 2,000,000 acres will all be yielding grain or hay crops within the next five or six years. Recent seettlement of the eastern sections of the country has demonstrated its worth for grain crops of all kinds, and in the country tributary to the Musselshell and Missouri rivers exceedingly fine crops of corn are grown. Until a few years ago the fact that corn could be grown within the confines of Fergus county was not even considered.

No country on earth produces a greater yield of wheat per acre than the Judith Basin. Reliable statistics have shown that the average yield per acre in some years to exceed 35 bushels. In the eastern sections around Grass Range and Winnett, which lie outside the Judith Basin, unusually large crops of wheat have resulted during the few years such crops have been grown there. In addition to the wheat crop, which is the most important, large crops of oats, rye, barley, and all the hay crops, are grown in all parts of the country.

Fergus county is a wealthy community. The entire State does not offer in any of its divisions a people who are in general more happily situated.

The waterways draining the county are Judith River, which conveys the waters of the Judith Basin to the Missouri River and the Musselshell and Flatwillow, which traverse the eastern sections.

There are numerous thriving towns in Fergus county, places of less than a thousand people, which supply big prosperous tributary regions. Among these

Digitized by Google

might be mentioned Hobson, Moore, Denton, Windham and Stanford, all in the Judith Basin, and Grass Range, Roy, Winnett and Winifred, in the eastern and northern sections.

Lewistown, the county seat, has claimed for many years with considerable foundation for the assertion, that it does more business in dollars and cents than any city of its size in the world. With an estimated population of 7,500. Lewistown is recognized as one of the leading business points of the entire state. Recent activities in railroad building by the Great Northern and Milwaukee systems are bringing every part of the county into close touch with the county seat. When these lines shall have been completed, Lewistown will be the most important railway center in the state. During the past two years several large wholesale and jobbing houses have opened branches in Lewistown, and two cement and stucco plants, employing several hundred workmen, have been built, one of them being an extensive producer at this time. The four banks of Lewistown show resources approximating $6,500,000.00.

Two very important features in the affairs of Fergus county are its efficient school system and its good roads. Practically every school district has its comfortable, well located school house. The fact that Fergus county roads are the best in Montana is admitted by every one who knows.

In Fergus county, not a crop failure has been known and only two years of light crops are recorded.

The mining district has been and is now an important factor of the county's wealth. Kendall and Maiden have been steady producers of gold ore, with some silver lead production in the latter camp, while recent discoveries in the Cone Butte district of the Judith Mountains have disclosed extensive ledges of high grade copper ore. Gilt Edge, at one time the country's greatest gold producer, is showing much activity this year. In the western part of the county, at the foothills of the Belt Range, an English syndicate is mining sapphires from a great ledge which has been exposed for a length of fully four miles. These gems equal the famed sapphires of Ceylon and Burmah, both in brilliance and value as gems. The ledge is located in Yogo district.

The great range herds of former days have passed with the coming in of the farmer, but a large percent of these latter own small bunches of cattle and sheep which are proving very profitable. Some of the more enterprising ranchers have gone into hog raising on an extensive scale and have made money at it.

There are not any large areas of desirable lands left for the homesteader in Fergus county, but the price of deeded lands is reasonable. Many of the big early-day holdings are being segregated into tracts to suit the purchaser, while other lands may be acquired at prices that are attractive when their producing qualities are known.

The assessed valuation of the county in 1917 was $25,524,595, and, according to the assessor's rolls the county contained the following livestock: Horses, 36,428; milch cows, 9,593; other cattle, 56,211; sheep, 100,658; swine, 7,061.

## FLATHEAD COUNTY.

Flathead county, located in the northwestern part of Montana has an area of more than 6,000 square miles of which a large part is forest reserve, state land, and Glacier National Park.

Its eastern boundary is the main range of the Rocky Mountains; its northern boundary the international boundary line. The northern part of the county is mountainous and distinctly scenic. Glacier National Park is proving a big asset to Flathead county, as Kalispell is the gateway city to the western entrance at Belton. A fine automobile boulevard out of Kalispell runs to Belton over the National Park Highway, traveled annually by thousands of tourists, whose demand stimulate the production of the farms and market gardens.

The timber resources of Flathead county adds greatly to its natural wealth. More than 20,000,000,000 feet of standing timber is in the Flathead district. Lumbering is one of Flathead county's biggest industries, affording labor to more than 2,000 men annually. The Somers Lumber Company at the head of Flathead Lake is one of the largest manufacturing plants of lumber in the northwest. A large per cent of its product is made into railroad ties which are processed in an immense pickling plant at Somers, Montana.

The annual output of lumber in Flathead county approximates $2,500,000.

Digitized by Google

Horticulture is one of the leading industries in the county, especially in the Flathead Lake region, where some large and fine orchards are producing premium fruit. It was fruit from Flathead orchards, largely, that carried off the big prizes at the San Francisco Exposition. The big sweet cherries, Bing and Lambert do exceedingly well in Flathead valley and ripen a'ter the Washington and Oregon cherry is off the market, leaving the Flathead product in the market to itself.

Small grain yields are very heavy, wheat running from 35 to 50 bushels per acre; oats 65 to 85 bushels per acre; potatoes 150 to 500 bushels per acre; barley, rye, timothy and clover heavy yields, also alfalfa is a most profitable crop, doing well in the low sub-irrigated river and creek bottoms and on all our soils and in nearly all locations. Its great success has increased the dairy output greatly and has been a strong feature behind the swine industry. A car of Flathead pigs grown on alfalfa and barley and then finished off on barley topped the Portland stockyards market in the winter of 1915.

The south end of Flathead county was formerly the Flathead Reservation which was opened to settlement in 1910. This is a rich and populous section of the country and is covered by a reclamation project of 150,000 acres.

The Northern Pacific completed in September this year, a branch line from Dixon, Montana, a station on the N. P. road, to Polson.

The elevation of Flathead county is 2,965 feet and its climatic conditions are ideal. It has never known hot winds nor blizzards, and its wind velocity is the lowest in the United States. The annual precipitation is 15 to 18 inches. In 1910, when the northwest was burned up by a severe drouth Flathead county had a fair crop.

Some of the largest water powers in the United States are in Flathead county. The Pend D' Oreille Falls at the foot of Flathead Lake near Polson has been reserved by the Government for a nitrate manufacturing plant. The Northern Idaho and Montana Power Company have developed a power plant at Big Fork, using the Big Fork river. This company is furnishing power to Kalispell manufacturing firms and light to Kalispell. Its rates for power are very low and it offers splendid inducements to manufacturing firms that want power. Kalispell, Polson, Whitefish, Columbia Falls, Somers, and Big Fork are the principal towns in the county. All these towns are well located and prosperous with rich agricultural districts surrounding them.

The cut over or stump lands of Flathead county offer to settlers of moderate means the best inducements in the state. There are many thousand acres of these lands in Flathead valley, not far from Kalispell, Big Fork, Whitefish, Columbia Falls and Polson that can be bought at the low figure of $5 to $25 per acre. Some of these tracts are river bottom land, sub-irrigated and where a crop can be raised every year. This land grows clover and alfalfa in abundance, making the best dairy ranches. Many of these cut over claims are near the forest reserves and offer locations for stock ranches as the stock in summer can be grazed on the forest reserves. Every acre of this $10 land, when cleared is worth $100 for growing alfalfa and clover. It may be bought on long time payments and low rate of interest.

The winters are moderate and the snow fall not excessive and not subject to drifting, owing to the low wind velocity. High grade farm seeds are being grown in the county for big eastern wholesale seed houses, under contract. Montana alfalfa, clover and timothy seed brings the highest price of any seed offered for sale. Flathead county offers inducements to settlers in its fine climate, good water, scenic conditions, rich soil, fruit growing, good roads, splendid schools, cheap lands, cheap and abundant fuel, water power, dairy locations, in fact a new country yet developed with every district school in the county graded, high schools, the Kalispell school having almost 600 students. Some of the best farm lands sell for $100 to $125 per acre. Some of the farm land is as well improved as any of the eastern farms.

The assessed valuation of the county in 1917 was $12,224,625, and, according to the assessor's rolls the county contained the following livestock: Horses, 7,356; milch cows, 4,000; other cattle, 11,800; sheep, 2,809; swine, 1,840.

## GALLATIN COUNTY.

One of the oldest counties in Montana and famous even in the early days because of its agricultural products—a reputation which has increased from year to year—Gallatin county is regarded by its residents as one of the finest in the entire state.

Digitized by Google

It was created in 1865 by act of the newly created territory of Montana and was named after the Gallatin river, discovered by Lewis and Clark in 1805. As in the case of the first formed counties, it has been cut down in area by new counties from time to time, but yet remains one of the wealthiest and best populated of them all.

The county is well watered. Its southern boundary extends to Yellowstone National Park and is a mountainous region through which the West Gallatin river and its numerous tributaries flow. The mountains are heavily timbered and there are numerous parks or meadow lands which afford excellent feeding grounds for stock. Good coal has been found in this region and there are deposits of asbestos and copper. This part of the country is much frequented by hunters and fishermen and is regarded as a veritable paradise for the sportsman. A good road emerges from Yellowstone park and winds through picturesque canyons, along which are mountains and gorges and streams of surpassing scenic beauty.

Farming and ranching are conducted largely in the foothills descending from the mountains and in the wonderful fertile Gallatin valley, which is known all through the northwest as one of the greatest farming sections in the state. The valley lands are irrigated from the waters of the West Gallatin and tributaries, while farming is profitably engaged in on the bench lands, without irrigation.

The irrigated and unirrigated lands are about of equal extent but every year there is an increase in the number of acres farmed, these being non-irrigated tracts in the foothills which have heretofore been used to an almost exclusive extent for grazing purposes.

The Gallatin valley, as has been stated, was one of the first of the pioneer counties to make farming the main industry of its people. The annual production of its farms is greater, perhaps, than those of any other county in Montana. Seldom, if ever, has there been a crop failure in the section, indeed there has never been a total failure from any cause. The average production of grain per acre is probably unequalled in any section of the United States. Reports of nearly 200 irrigated grain fields embracing more than 14,000 acres show that the wheat yielded better than 52 bushels an acre, oats 76, barley 58 and potatoes 291.5. Reports from about 7,000 acres of unirrigated lands show the average yield per acre was 42 bushels. The money returns and the fertility of the soil, give the valley the title of "the Egypt of America."

Much of the grain is taken for seed and in the past there have been exportations to the Orient and Australia.

All hardy varieties of fruit, large and small, yield abundantly. Vegetables show large yields, celery being especially fine. Strawberries and raspberries yield remarkably.

Dairying is on the increase and poultry raising proves to be exceedingly profitable

Gallatin county is well supplied by railroads, the Northern Pacific, Chicago. Milwaukee & Puget Sound and the Gallatin Valley, the latter a subsidiary of the C. M. & P. S. A road comes in from the Trail Creek coal fields.

Principal towns are Bozeman, Three Forks, Belgrade and Manhattan. Three Forks with two railroads, has a population of more than 3,000 and is a modern little city with its own waterplant and lighted by electricity. Manhattan is a milling and shipping point, Salesville in the southern part and Maudlow in the northern part are also shipping points of importance. Belgrade has large flouring mills and elevators and is a grain buying and shipping point. At Trident is a large cement factory employing a large number of men. Logan is a junction point on the Northern Pacific railroad and a trading place for the lower Madison valley.

Bozeman the seat of the county government and also the location of the State Agricultural College, is well entitled to its claim of being the "Beautiful". The city is modern in every respect, has beautiful homes, wide well paved streets brilliantly lighted, pretty lawns and parks, big shade trees, owns its waterworks, paid fire department, street car lines, U. S. Land Office, Montana Experiment Station, U. S. Fish Hatchery, flouring mills, cereal food factory, elevators and numerous small factories.

Little desirable homestead land is left, but the state owns more than 50,000 acres of farming and forest lands. The forests embrace 840,418 acres. About 790,000 acres are privately owned.

Digitized by Google

The assessed valuation of the county in 1917 was $16,013,040, and, according to the assessor's rolls the county contained the following livestock: Horses, 11,420; milch cows, 2,812; other cattle, 20,465; sheep, 20,200; swine, 2,465.

## Granite County.

Granite county which lies east of the Bitter Root section is mountainous but has a number of fertile valleys where ranching and grain raising is carried on to a great extent.

The county, however, is chiefly noted for its mineral wealth. Some years ago it has achieved a world wide reputation in this respect, the Granite-BiMetalic mine at Phillipsburg having produced to date between $50,000,000 and $70,000,000. The reduction works are being remodeled and the oil flotation system of treating ores has been installed. It seems certain therefore that this famous mining property will soon take its old place as a heavy producer. The mining of manganese ore within the last year has been taken up vigorously and more than 200 tons are being shipped daily from the immense deposits east of Phillipsburg to the eastern markets. Experiments are being conducted to reduce the manganese ores by electricity, working toward a new industry the manufacture of ferro-manganese. A $350,000 plant is planned.

Great quantities of sapphires have been mined in the West Fork district. The stones are found in gravel deposits and taken by hydraulic mining.

Much attention has been given to the breeding of improved strains of horses and cattle, at least half of the range cattle of the county is of Hereford stock.

The Flint creek valley extends to about 12 miles south of Phillipsburg. The Upper Flint creek and Rock creek valleys are given over to stock raising largely and the lower Flint creek valley and Hellgate are grain raising sections. From 75 to 100 bushels of oats are raised on irrigated lands and 40 to 50 bushels of winter wheat are not uncommon. The soil is alluvial, rich and deep and convenient railroad trasportation takes the grain, hay and vegetables to convenient markets. The Northern Pacific and the Chicago, Milwaukee and Puget Sound railways run through the Hellgate valley which has an eastern and westerly trend.

Fruit growing is attracting attention, a number of orchards already having demonstrated that fruit may be handled on a profitable commercial basis.

Phillipsburg the county seat and principal town is a terminus of a branch line of the Northern Pacific and has an estimated population of 1,550. It is located on a commanding position on a terrace of Flint Creek valley, has good drainage, water system, electric light plant, court house, fine homes, business houses, two banks, two big garages and a fine theater. Not a vacant house is to be found in the town and rooms are high. Drummond on the main line of the Northern Pacific at a point where the branch begins to Phillipsburg, is the trading point for the northern end of the county, has mercantile houses, a newspaper and is a lively little town.

The estimated population of the county is 4,500. Practically all land suitable for homesteading has been taken. The unappropriated land lies in the forest reserve and is too mountainous, for the most part, for homesteading.

Improved irrigated land ranges in price from $50 to $100, unimproved irrigated land, $20 to $40 and unimproved dry land $10 to $20 an acre.

The high price of copper has stimulated the search for this metal in the county and several small mines are making regular shipments. Development work in the gold properties at Garnet and Princeton is being carried on and some of the mines are shipping regularly. Gold dredging plants are being installed in the old placer grounds at Bear Creek and Henderson.

The area of the county is 1,728 square miles.

The assessed valuation of the county in 1917 was $3,092,775, and, according to the assessor's rolls the county contained the following livestock: Horses, 4,049; milch cows, 1,069; other cattle, 13,715; sheep, 18,273; swine, 627.

## Hill County.

Hill county created in 1911 from a portion of Chouteau county by a vote of the people, typifies rapid development of the eastern and northern parts of the state. Like much of that section of Montana it was regarded as suitable only for grazing, but it has furnished homes for thousands of settlers who are raising grain profitably, although stock raising is by no means neglected. A large percentage of the land is tillable and most of it is cultivated profitably by the dry farming method.

Digitized by Google

The Milk river enters Hill county and flows southeast through the eastern part. It is also watered by numerous creeks. The Milk River project has not been completed to a degree sufficient to irrigate except in limited areas.

Excellent yields of wheat, oats, flax, barley and corn are obtained. Stock raising is still a prominent industry and hog raising is rapidly becoming a source of the farmer's prosperity.

Discovery of natural gas within two miles of Havre—gas in such quanities that it heats the city with much to spare, adds much to the attraction which the county holds out to settlers. There is much prospecting for oil and geologists are authority for the statement that both gas and oil underlie a portion of the county.

Havre, the principal city and county sete, has undergone great development and growth within the past few years. It has an estimated population of more than 5,000 and an assessed valuation of more than $2,000,000. It has three banks, three wholesale houses, a daily and three weekly newspapers and many fine business blocks and handsome residences. Its schools are considered among the best in the state. It has city water and an electric lighting system and is thoroughly modern in every respect. The Great Northern transcontinental line passes through it and here is located a division point. The payroll from the railroad shops is a goodly sum and adds to the prosperity of the community. The presence of natural gas in quantities indicate that at no distant day the town may become prominent as a manufacturing center.

Hingham, Kremlin, Iverness and Gildford are other growing towns along the Great Northern railway.

While the influx of homesteaders has been large, there are still some good land to be had by filing. There are more than 200,000 acres of land subject to entry, an equal amount of selected state land at a low price and nearly 800,000 acres are privately owned.

The assessed valuation of the county in 1917 was $12,439,088, and, according to the assessor's rolls, the county contained the following livestock: Horses, 17,281; milch cows, 4,799; other cattle, 12,144; sheep, 30,650; swine, 1,765.

## JEFFERSON COUNTY.

Jefferson county is mountainous and its principal industry is mining, the hills being highly mineralized. Many millions of dollars have been extracted from its producing mines.

The county is one of the original organizations of territorial days. It lies on the eastern slope of the Rocky Mountains and is separated from the Missouri valley by parallel ranges, of which the Elkhorn mountains forms a part. Jefferson valley is the lowest altitude in the county and toward this the mountains slope. Mountain streams unite to form the Boulder river which rises in the northwestern part, flows east and then south to the Jefferson river with which it unites at Jefferson island. The northwestern part of the county is drained by Prickly Pear creek, which empties into the Missouri river near Helena. The Jefferson river is the southern boundary of the county.

Since the early days of the county stock growing has been an important industry. Many horses and cattle are shipped from the ranches annually. The forest reserves furnish much summer pasturage and little winter feeding is nccessary. There is a good production of hay.

In the valleys of the Jefferson and Boulder rivers, most of the farming is carried on. The lands are irrigated to a considerable extent from these streams. The Jefferson valley is about 35 miles long and extends from the canyon on the east to Waterloo on the west and embraces Jefferson Island. Whitetail, Deer, Fish and Pipestone creeks water this region which contains many fine ranches. The Boulder valley is extensive and much grain and hay are raised. Native grasses make excellent hay and alfalfa yields from three to six tons an acre.

Winter wheat, oats, rye and hay are the chief crops. Irrigated oats yield from 25 to 50 bushels an acre, winter wheat from 30 to 50 bushels and rye about the same. From 15 to 40 bushels is the yield on non-irrigated tracts. Diversified farming is pursued by many and vegetables, fruits and poultry and dairy products are a source of income, the markets of Butte and Helena being eager purchasers.

In addition to the mines there are quarries of limestone and granite which are worked profitably. Granite from Jefferson county was used in the construction of

Digitized by Google

the wings of the state capitol building. Whitehall in the southern part of the county is probably the most populous town. It boasts of about 800 people, is a railroad junction point, has good schools, churches and large business establishments. It lies in a fine ranching section.

Boulder, the county seat, lies in the central part of the county about midway between Butte and Helena. It is a thriving town with churches, schools, newspaper, court house, banks and neat residences as well as good mercantile establishments. Here is located the State School for the Deaf and Blind. About three miles away are the famous Boulder Hot Springs, a health and pleasure resort. A modern and costly hotel building and bath house stands there and is heavily patronized the year around. Alhambra and Sunnyside Hot Springs are two health resorts, 15 miles south of Helena and Pipestone Springs on the Great Northern is the fourth health resort favored with hot springs.

Piedmont a new town south of Whitehall is on the Milwaukee road and is in a good farming section. Orchards and gardens are a feature of the community. Clancy lies in an agricultural and mining region. Corbin and Wicks are centers of the mining industry.

There are opportunities both for the homesteader and the capitalist in Jefferson county. The ores are close to the smelters of Anaconda and Helena, where also are markets for farm produce.

The area of the county is 1642 square miles. It is in the Helena land district. There are more than 100,000 acres of land open to entry and 25,000 acres of state land. The forests embrace 482,267 acres.

The assessed valuation of the county in 1917 was $6,807,851, and, according to the assessor's rolls, the county contained the following livestock: Horses, 4,546; milch cows, 2,157; other cattle, 14,180; sheep, 5,156; swine, 415.

## LEWIS AND CLARK COUNTY.

Lewis and Clark county is one of the foremost counties of the state. It has an area of 2,572 equare miles and a population of 25,000. Its resources are agricultural, dairying, fruit, stock-raising and mining.

There are approximately 300,000 acres of agricultural land, some of which has been farmed continuously for more than fifty years with most excellent results. Until within the past few years farming operations have been confined to the valleys and level lands; but at present the farmers are climbing the mountain sides and some of the best grain fields in the state are to be seen within a short distance of the top of the main range of the Rocky Mountains which passes through the county from north to south.

All of the grains yield exceedingly well in both dry farming and irrigated districts, and the root crops do especially well. In the Prickly Pear valley north of Helena the potatoes which took the world prize at the Panama-Pacific and San Diego Expositions, were raised. This has resulted in a great increased demand for this crop and each year new buyers from the great central markets come in to secure the "Big Baked Potatoes" for their choice trade. In 1916 several of the potato farmers contracted their entire output to the Northern Pacific railway company's dining car department.

While a large part of the agricultural sections practice scientific dry farming, there are large tracts under irrigation both from the natural mountain streams and by the pumping system. One of the latter is located in the Prickly Pear valley where 12,000 acres are served by the Montana Power Company's system; the water being pumped from the Missouri river which crosses the county from south to north. The water is pumped by electric power generated at the Hauser Lake power dam. There are three power dams on the river at Canyon Ferry, Hauser Lake and Holter, which produce a total of 96,000 horse power, which is transmitted to various parts of the state for use in mines, cities and on farms.

The grasses of the county make it one of the best dairying section of the west; and in connection with the pure water, produce a butter that finds a continuously increasing market at good proces. Stock-raising is on the increase and some of the best bred cattle, sheep and hogs in the west are owned and located here. Poultry raising is extensively carried on with profit.

While the county is not known as a fruit raising center, there are a number of small orchards whose several years production of high grade apples demonstrate the possibilities in this field. Small fruits of all kinds produce abundantly.

Digitized by Google

More than two hundred millions of dollars have been produced from the mines of the county. Marysville once famous as the location of the Drum Lummon mine from which millions of dollars were taken has through the re-opening of that mine and the addition of the Shannon and the Marysville Gold Mining Company's properties, every reasonable prospect of seeing a return of her former mining prosperity. In the neighborhood of Helena in the Scratch Gravel and Grass Valley districts, there are now eight producing mines which are the result of the mining revival started three years ago by the Helena Mining Bureau, an organization of the business and professional men of the city formed for the purpose of fostering and promoting the mining industry. In addition the mines in the Rimini district, twenty miles from Helena are being re-opened with paying results. An equal amount of activity prevails east of the city where the Economy mine and other properties are being profitably operated.

Helena the county seat is also the State Capital and has been named "The Biggest Little City in the West." It is metropolitan in all respects and attracts many people who make it their homes in order to take advantage of its splendid school system, colleges, churches and libraries, as well as its delightful summer and winter climate which is unsurpassed in the west. The town is the financial center of the state and has the distinction of having the largest per capita bank deposits of any city in the country. Within easy distance of the city by roads which have been pronounced the best in the west, can be reached some of the most wonderful scenery in the world. The other towns of the county are East Helena, where the large smelters of the American Smelting and Refining Company are located; Augusta and Gilman in the northern part of the county, Wolf Creek, Craig, Lincoln and a number of smaller placres.

There are many opportunities for the profitable investment of capital in all lines, detailed information of which can be obtained from The Helena Commercial Club, Helena, Montana.

The assessed valuation of the county in 1917 was $22,325,215, and, according to the assessor's rolls, the county contained the following livestock: Horses, 5,498; milch cows, 1,741; other cattle, 29,446; sheep, 88,409; swine, 1,604.

## LINCOLN COUNTY.

Heavily timbered, mountainous, with a greater rainfall than any other county in the state, the location of rivers capable of producing great power, Lincoln county which occupies the northwestern part of Montana, is considered one of the garden spots of the state.

Streams and lakes are numerous and the scenic attractions are such that the county is visited by thousands of tourists every year. It is a favorite resort for the hunters of big game.

Lumbering, mining and agriculture and dairying and fruit raising are among its industries.

The county was formed from a part of Flathead county in 1909. The Kootenai, which is said to have a larger flow than the Missouri or the Yellowstone rivers, is susceptible of great power which has not yet been developed. The Yaakt, Fisher and Tobacco rivers are tributaries of the Kootenai and there are numerous mountain streams which flow into the big river. The rainfall is the heaviest of any county in the state, being 24 inches annually. Irrigation, while practiced to a great extent in the valleys, is not necessary to produce great crops of all kinds.

Lumbering is the leading industry and there are huge mills at Libby, Eureka and Warland. There are at least 20,000,000 feet of standing timber in the county. An army of men is employed in the woods and in the mills. These camps furnish a good market for produce of the fields and gardens and orchards and Spokane, another market, is a comparitively short distance away.

That Lincoln county will become one of the biggest mining regions of the state is the prediction of those who have prospected its great mineral resources. The Snowshoe mine located in the Libby silver-lead mining district, has produced more than $1,000,000, and in the West Fisher gold fields, 40 miles southeast of Libby there have been discoveries of rich ores and much development work has been done. The Yakt district in the western part and north near Eureka there are promising mineral claims. The Libby placer mines were among the early discoveries in the state and have been producing for years, hydraulic mining following the sluicing of the early days. Later on dredges may be employed to advantage.

Digitized by Google

Lincoln county in the valley districts is especially favorable to fruit raising and dairying. The altitude is the lowest in Montana away from the mountain ranges. At Libby it is 2,055, Eureka, 2,308, 1,881 at Troy and 2,113 at Jennings. The farming section is being added to yearly by the cultivation of logged-off lands and the valleys along the rivers have much open meadow land which is being put in shape for farming and fruit raising. The Tobacco Plains is a large area of land in which there is no timber and this section is among the grain producing farming communities. The Plains are also the location of a number of fine orchards, where apples, plums, cherries and berries of all kinds are raised. There are also a number of orchards near Libby. Vegetables and grasses grow well in all sections.

The main line of the Great Northern runs through the county and a branch line through Eureka and north to tap the coal fields of Canada.

Libby, the county seat, Eureka a big lumbering center and Troy, a railroad town are the principal towns of the county. Libby, on the Kootenai river, has a population of about 2,000, is modern with electric lights, newspapers, cement sidewalks, miles of graded streets, beautiful homes, substantial business houses, water works and a huge sawmill. Eureka is the chief trading point for the Tobacco Plains country, has electric light, waterworks, creamery, banks, newspaper and large sawmill.

Lincoln county's area is 3,980 square miles, including 3,000 acres of homestead land, 53,000 acres of state land, and more than 2,000,000 acres of forest land.

The assessed valuation of the county in 1917 was $4,138,835, and, according to the assessor's rolls, the county contained the following livestock: Horses, 1,869; milch cows, 456; other cattle, 1,821; sheep, 18; swine, 205.

## MADISON COUNTY.

Madison county's worth as an agricultural region was discovered in the early 60's when gold seekers attracted by the rich placer diggings of Alder Gulch, flocked there by the thousands.

For nearly a year after the discovery in 1863, there were 30,000 in Alder Gulch and vicinity, and as food was scarce and had to be freighted from long distances, many who were unable to secure mining properties, turned farmers and helped supply those who worked the diggings. The fertility of the soil was thus known early and those who engaged in raising foodstuffs at that time, probably fared better as a class than the men who worked the placer mines.

The valleys of Madison county are among the most productive of the state. The early day farmers naturally chose the land along the creeks and streams because they were easy to irrigate and close to the gold diggings, their market. That left the rich benchlands for the later comers who have thrived upon them.

From the mining county of 40 or 50 years ago, Madison county developed into a great stock raising community, where horses and cattle were raised the year around on the open ranges. Now the livestock is largely crowded to the forest reserves and are fed upon the ranches where hay is grown in huge amounts. Year by year the open range is disappearing and the county will soon be filled with settlers who find profit in the growing of grains and forage crops. Some of the best bred horses, cattle and sheep in the United States are to be found in this county. Big herds of cattle and sheep are still numerous.

The county is watered by the Madison, Jefferson, Ruby, Beaverhead and Big Hole rivers and their numerous tributaries. A large quantity of hydro-electric power is available, part of which is utilized by the Montana Power Company, which has built, seven miles from Norris, a dam across the Madison and established a plant which generates 20,000 horse power the year around. The power is transmitted to Bozeman, Livingston and other places east.

The chief agricultural districts are in the valleys and between the mountain ranges which traverse the eastern boundary, the center of the county and the western border. The Jefferson valley extends from the northern boundary to Twin Bridges, where the river is formed and embraces its own drainage and those of the South Boulder and Willow Creek, a great extent of valuable farm land, South of Twin Bridges are the Beaverhead and Ruby valleys, the former about 15 miles long and 5 miles wide and the latter 30 miles long and from a mile to three miles wide. These valleys contain many valuable farms. The Madison valley is about 36 miles long and including the bench lands, about five miles wide. The upper part of the Willow Creek valley extends to Pony and Norris. Large crops of oats, wheat and hay are raised. Meadow Creek, McAllister, Ennis,

Digitized by Google

Jeffers, Cameron and Lyon are postoffices in the Madison valley, which has room for perhaps five times its present farming population. There are many stock ranches in this section. The Waterloo section is adapted for all agricultural pursuits and fruit raising.

Small fruits prove a valuable crop and dairying is on the increase. Sugar beets grow well, the yield being from 16 to 20 tons. The sugar content is high.

Mining is still one of the big industries of the county. The county produces more gold than any other in the state. Quartz mining followed the rich placer mining but at the mouth of Alder Gulch large dredges are still handling large quantities of gold bearing dirt. The greater part of the county is in a mineralized region and numerous mining camps exist--Silver Star, Iron Rod, Twin Bridges, Rochester, Sheridan, Virginia City, Pony, Norris and Red Bluff, are surrounded by mining districts.

The principal towns are Virginia City, the county seat, an important mining and commercial center and a town of great historical interest for it was the territorial capital; Twin Bridges which is situated at the head of the Jefferson valley is a lively bustling town, a stock shipping point and the location State Orphan's Home with its numerous buildings; Pony a town used as a trading point for the Willow Creek country; Sheridan, surrounded by rich farming community and near to producing mines.

The settlers on the bench lands have done wonderfully well the past five years. Some of the best lands of this character are owned by the state and may be obtained at a reasonable price. These lands are within a radius of ten miles of Twin Bridges.

The Northern Pacific has a branch line extending from Whitehall to Alder and another from Sappington to Pony and Norris. The population of the county is estimated at about 10,000. There are about 600,000 acres of homestead lands and 113,000 of state lands. The land area is 3,588 square miles.

The assessed valuation of the county in 1917 was $7,903,923, and, according to the assessor's rolls, the county contained the following livestock: Horses, 10,675; milch cows, 957; other cattle, 34,253; sheep, 133,954; swine, 3,268.

## MEAGHER COUNTY.

Once one of the largest counties in Montana, Meagher has been hacked and sliced by new counties until its area, though still quite large, has been reduced to 2,369 square miles. Its last loss of territory came during the present year, when by legislative enactment, Wheatland county was organized in addition to a row of townships from Sweetgrass county, it took from Meagher 1,184 square miles.

The county was named for General Thomas F. Meagher, once acting governor of Montana territory, a soldier of fame both in the old world and in the United States and one of the most noted of pioneers.

Meagher county is separated from the Missouri valley by the Big Belt range of mountains. The creation of Wheatland county sliced off about a third of the county, taking in the eastern part, including the towns of Harlowton and Judith Gap, located in an agricultural section. The northern boundary of Meagher is the Little Belt mountains.

The chief farming district is in the Smith River valley in the northern part. The valley is about 50 miles long by 12 to 15 miles wide. This valley was formerly given over largely to stock raising, but settlers discovered the fertile soil was adapted to grain raising and a considerable area was put into crops the past two or three years, although a railroad is badly needed to market the crops. The yield shows 35 bushels of winter and as high as 53 bushels of spring wheat, 50 to 75 bushels of oats and 2 to 4 tons of hay to the acre. The oats is heavy, running as high as 45 to 48 pounds to the bushel. The county has won many prizes at the State Fair. Sixteen Mile creek which rises in the Castle mountains and flows west through a canyon joining the Missouri at Lombard is a scenic route much favored by tourists.

Meagher county has been and still is a great stock region. Cattle and sheep are ranged and much of the irrigated section of Smith River valley is devoted to the raising of hay for winter feed.

There is considerable mineral in the mountains but except at Delph there is little activity. At one time Castle was a producer of silver in quanities.

White Sulphur Springs, the county seat, is an old town, but modern nevertheless. It has a fine hotel, a city auditorium, ample to serve a city thrice its size,

Digitized by Google

court house, electric lights, a high school and graded schools, three churches, cement sidewalks, banks, a newspaper, many retail stores and fine residences. The hot springs which gives the town its name have been taken over by Ringling, a circus man, who also owns the railroad which runs to White Sulphur, 18 miles from Ringling, where a junction is made with the Milwaukee. Some of the large ranches close to White Sulphur Springs have been divided up and are being disposed of to farmers.

The county is within the Helena land district and some public land is still available for homestead entry. There is also a considerable amount of selected state lands which may be had for a reasonable price.

The assessed valuation of the county in 1917 was $6,049,315, and, according to the assessor's rolls the county contained the following livestock: Horses, 6,042; milch cows, 542; other cattle, 26,000; sheep, 128,946; swine, 854.

## MINERAL COUNTY.

From the western part of Missoula county, in 1914, there was created Mineral county, with an area of 1,224 square miles. The county for many years has been the seat of activity in lumber and mining and these, indeed, are yet the principal industries. Within the past two or three years, agricultural has been on the increase and in the Clark's Fork valley many ranches have come into being. The valley is one of the longest and most fertile in the state, though in places along the river quite narrow. The benchlands back of the valley are extensive and have been found to be good farming lands. A steady growth is noticeable.

But, as stated, lumber and mining are the principal industries. The county has many mountain ranges and heavy forests. At St. Regis is located one of the largest saw mills in Montana and at Henderson another big mill is in operation. West of St. Regis the land is heavily timbered and for years to come there will be a supply sufficient to keep the mills running at capacity.

The mining properties are located near Superior and in the western end near Saltese. The past year about 500 men have been actively engaged in mining and many prospects are being brought into the producing class.

There is a possibility of development of 20,000 horse power from the swift running Clark's Fork, a tributary of the Columbia and when this is reached, much impetus will be given to the industrial life of the county.

From the standpoint of scenic beauty and hunting and fishing, the mountains of the county offer a lure to tourists and sportsmen. Good roads and trails lead into the hills and the entire section is easily accessible.

Two railroads, the Northern Pacific and the Chicago, Milwaukee and St. Paul pass through the county.

The principal town is Superior, the county seat, with an estimated population of about 400. It is located on the Clark's Fork between mountain ranges and has two weekly newspapers, a bank with more than $100,000 deposits, a number of retail stores, a theater and churches. The schools are excellent. Other towns are De-Borgia, St. Regis and Saltese, all located on the railroad.

Dairying promises to be a prominent industry, owing to the pasturage afforded by the forest reserves, the cut over land and the hay which is obtained along the Clark's Fork.

There are about 50,000 acres of land subject to homestead entry and 26,000 of selected state lands while the forests include 875,000 acres.

The assessed valuation of the county in 1917 was $2,149,368, and, according to the assessor's rolls, the county contained the following livestock: Horses, 618; milch cows, 345; other cattle, 537; sheep, 80; swine, 126.

## MISSOULA COUNTY.

Missoula county lies in the extreme western part of the state, midway between the northern and southern boundaries. It is on the western slope of the continental divide and has an average altitude of 3,000 feet. Its area is 3,022 square miles; its estimated population, 30,000.

Agriculture, in various forms, constitutes the chief industry of the county, though lumbering is of almost equal importance. Mining, milling, and manufacturing are also prominent.

Missoula county has become widely known for her yields of grain and fruit. With these two products, she has time and again won first prizes at state and

Digitized by Google

national expositions. But profitable as are these two forms of agriculture, farmers of the county are fast coming to realize that natural conditions in Missoula county offer the greatest reward to dairying and stock raising. This is practically a new view point on agriculture in this county, but already it has gained a good foothold and is rapidly spreading.

Grain and fruit ranches in many cases have given way to this new form of agriculture. Mild climatic conditions, cool nights and warm days, an abundant supply of clean water, and luxuriant growths of clover, alfalfa, and peas combine to afford to dairying advantages which are exceptional. The growth of this industry is making itself manifest in the many new creameries which are springing up in the county. The Missoula creamery, situated in Missoula, is probably the pre-eminent example. It has only recently been constructed but already has the largest business of the kind in western Montana. In all recent state tests for richness and purity, Missoula creamery butter has led.

Stock raising, too, is rapidly gaining in importance as a form of industry in Missoula county. Here, again, conditions of climate, soil, and nature in general, are especially favorable. There are in the county, two breeding herds deserving special mention. They are those of T. L. Cape of St. Ignatius, and of Harold Haegg of Ronan. Both are Holstein herds. The success with whicch hay may be grown in the county, is another inducement to stock raising. Last year 100 acres on the Paul Greenough ranch near Sunset, Montana, yielded 500 tons of timothy hay at the first cutting. Others have made similar records. Clover, alfalfa, and some varieties of wild hay grow in abundance.

The fruit of the Bitter Root valley and the grains of the Missoula and Mission valleys, are still counted as the county's most important crops. Bitter Root cherries and apples are in first demand in the eastern markets. The McIntosh Red apples grown in the Bitter Root have been adjudged the best in the world at national expositions. Missoula county wheat has for years won first prizes at state and national fairs.

Lumbering is carried on extensively in the county. The Anaconda Copper Mining company's mill at Bonner, the Western Lumbering company's mill at Milltown and the Harper and Baird mill at Hayes spur, are the most important of the sawmills of the county, though there are many others being operated. This year the output of the A. C. M. mill alone will be 150,000,000 feet.

Missoula, St. Ignatius, Ronan, Bonner, and Ravalli art the more important of the towns of the county. Missoula is the metropolis, not only of the county but of western Montana. It is a modern city in every respect. It has a population of 18,241.

The assessed valuation of the county in 1917 was $16,740,057, and, according to the assessor's rolls, the county contained the following livestock: Horses, 5,839; milch cows, 4,714; other cattle, 11,241; sheep, 6,108; swine, 2,361.

## MUSSELSHELL COUNTY.

Musselshell county was created by act of the legislature on March 1, 1911 from parts of Fergus, Yellowstone and Meagher counties. It derives its name from the river of the same name, which traverses it from east to west and drains the greater part of the county.

Its industries are coal mining, stock growing, grain farming, and diversified farming to a limited extent. Its coal deposits are very extensive, estimated to cover an area of some 600 square miles. A small percentage of these lands have been exploited, but several producing mines are being operated in the county, producing upwards of 7,000 tons daily. An excellent grade of coal is mined, a large amount of it being used by the Milwaukee railroad for its engines.

A constantly increasing acreage is being seeded to wheat, the production in 1916 being estimated at 1,000,000 bushels. For 1917 the acreage is considerably increased, and the yield will be correspondingly heavier. Dry land farming is the prevailing method of cultivation, and yields of from 25 to 40 bushels of wheat to the acre are not uncommon, the average yield being about 28 bushels. A small acreage lying along the river is irrigated and produces splendid alfalfa, clover, corn and garden crops. The bench lands are surprisingly productive, and alfalfa and sweet clover have been successfully grown on these lands. Among vegetables the root crops are yielding good returns, and oats, flax, barley, and rye are produced extensively.

Digitized by Google

There are very few homestead lands to be had which are suited for general farm purposes, most of them being only suited for grazing. There are, however, plenty of lands which may be purchased at reasonable prices, and on long terms, which will make splendid wheat lands. The dairying business is coming to prominence, and will eventually be one of the chief sources of revenue of the farmers who are preparing for it. Sweet clover is being extensively sown for hay, pasture and silage, and seems to thrive on dry land and benches.

Formerly the territory comprising this county was devoted to extensive cattle and sheep ranches, some of which still remain, but with the coming of the railroad, settlers and homesteaders appeared, until now the production of small grains is the chief occupation of the farmers. There are still several big outfits operating ranches, and shipping a substantial number of cattle to eastern markets.

Roundup, the county seat and chief city is a thriving city of nearly 5,000 people, with paved streets, sewer, water and light systems, and substantial business houses and banks. Two coal camps located at the outskirts of the city produce 5,000 tons of coal daily, and give employment to nearly 1000 men whose payroll averages $100,000 per month. Four elevators and a flouring mill care for the large wheat crop tributary to this point.

Melstone at the eastern extremity of the county is a division point for the railroad and furnishes a trading center to a large number of farmers in that section. It also has several undeveloped coal fields which will eventually add materially to its prosperity.

Rygate at the western end of the county is surrounded by a fertile farming community. It is a substantial town and is increasing in importance and population.

Lavina is also one of the agricultural centers of the county and the rich farms around it is causing it to grow and prosper. An artesian well furnishes an abundance of fine water at good pressure. The new town is located about a mile from the old town which was quite a noted place in the old stage coach days.

The area of the county is 2,944 square miles, and is located in the Billings and Lewistown land districts. There are about 64,951 acres of government land both surveyed and unsurveyed in the county. The population is estimated at 18,000.

The assessed valuation of the county in 1917 was $12,402,811, and, according to the assessor's rolls, the county contained the following livestock: Horses, 11,229; milch cows, 5,557; other cattle, 11,835; sheep, 18,469; swine, 1,942.

## PARK COUNTY.

Park county is located in the south central portion of the state, its south line being the northern boundary of the Yellowstone National Park. It is a long narrow county, extending 100 miles east and west. It is traversed from the north to the south by the Shields and Yellowstone valleys; the valleys running from ten to thirty-five miles in width. Running into these large valleys are many of lesser proportions the largest of these being Paradise Valley, an off shoot from the upper Yellowstone which has now become famous as a producer of high grade seeds and especially of a large variety of peas. The valleys of the county are extraordinarily fertile and are noted for their abundant production of grains, grasses, vegetables, and fruits, the county having now many international, national and local prizes on these lines as well as for high grade cattle, horses and sheep. In fact, the prize winning activities of the county has won for it the name of the "prize winning county of the prize winning state."

The soil of the agricultural areas is a rich black loam that is not equalled for productive permanency, analytically showing a composition of nitrogen, phosphorous lime and potash, all the most valuable elements of plant food, and which are largely lacking in the purely vegetable soils of states removed from the mountain ranges. The soil is from two to six feet in depth, overlying a strata of sand and gravel, and beneath this is clay or shale. These farm lands, with their unusually high nitrogenous and mineral plant food content, will produce all the grains, grasses and vegetables steadily and bountifully for an indefinite period.

The acreage production for wheat ordinarily runs from twenty-five to fifty bushels, and yields of sixty bushels are not uncommon, while up to eighty bushels are on record. Oats runs from sixty to one hundred bushels, and alfalfa, which

Digitized by Google

grows with wonderful luxuriance and persistence, yields from four to seven tons to the acre. All vegetables and moderate zone fruits are grown in greatest abundance.

The south half of the county embraces one of the richest ore zones on the American continent. Though not having a very large output at this time, the resources are almost unlimited in both variety and quantity. With the opening to the Jardine Mines and the famous Cook City Mining district, great development and extensive production in the near future seem assured.

The mineral in the closely tributary country are red and brown hematite and susqui—oxide of iron of the highest and purest grade; copper, lead, zinc, placer, cyanide, free and smelting gold ores; cheelite, tungsten, molybdenum, platinum, cinnibar; cement shales running high in alumina, cement rock as white as alabaster; high grade limes, gypsum, onyx; a variety of beautiful marbles and the handsomest granite to be found on the continent beside an almost endless variety of building stones; fire, brick and tile clays; great measures of bituminous and coking coals, and added to these, hydro-electric power and fifty thousand horse power available and susceptible of economical improvement.

The public farm lands of Park county have about all passed to private ownership, but the opportunities offered for profit, either for farming or investment, could not be more attractive, and if cultivated, the lands will annually and continuously produce more dollars per acre than many other agricultural lands. As a speculative investment, they are rapidly appreciating in value, so that in their purchase there is no risk involved, and there is certain profit in sight.

Unimproved lands, well located as to market facilities are selling at from $15 to $25 per acre and improved farms at $40 to $60 per acre.

Park county is afforded ample transportation facilities, being traversed east and west by the Northern Pacific transcontinental line, by a railroad line from Livingston up to the Shields River Valley and a line from this city up to the Yellowstone valley and to the National Park.

Livingston is the county seat and market city of Park county. It has a population of between seven and eight thousand, and is the most beautifully environed of any city of the Rock mountain range.

Livingston is a division point of the Northern Pacific railway, and has a commodious and architecturally imposing passenger depot. The shops of this railway afford a monthly payroll of approximately $110,000.00.

The assessed valuation of the county in 1917 was $10,340,115, and, according to the assessor's rolls the county contained the following livestock: Horses, 8,146; milch cows, 2,704; other cattle, 19,236; sheep, 64,336; swine, 3,716.

## PHILLIPS COUNTY.

Phillips is one of the newest counties in the state, having been created in February, 1915 from the eastern portion of Blaine county and the western portion of Valley county. It has for its northern boundary the Dominion of Canada and the Missouri river forms its southern boundary.

The principal industries of the county are farming, stock raising and mining. The dry land farming produces the greatest income and the county is dotted everywhere with the homesteaders' cabins where but a few years ago, the land was all one great range for cattle and sheep. Phillips county has four mines which in 1916 produced gold and silver to a value of $528,086 and is the second in individual output in the state, also the seventh among the counties of the state in value of total production.

This county is in the central part of the Milk River Irrigation Project which when completed will water a total acreage of 220,000 acres. Phillips county has approximately 72,000 acres capable of irrigation.

Malta, the county seat, is a modern town in every respect. It has experienced a very material growth since becoming a county seat and now has a population of approximately 1400. It is one of the most important trading points in northern Montana and supplies the needs of the settlers within an area of 3,000 square miles. Other important towns in the county are Saco in the eastern part and Dodson in the western part, both now being incorporated and being trading points for a large area in their respective parts of the county.

On account of the rapid immigration into this county, the population can only be estimated. The War Department basing its estimate upon the military registration, gives the county 26,609 people.

Digitized by Google

Phillips county, which is in the Havre and Glasgow land districts embraces an area of 5,266 square miles, including 1,325,971 acres of surveyed and unsurveyed, unappropriated public lands available for entry under the homestead laws, 111,345 acres of state land, and 29,240 acres of national forests. Of the total area of the county 410,566 acres are privately owned.

Crop production—The following gives the estimated crop production for 1916: Wheat, 75,000 bu.; flax, 22,000 bu; barley, 30,000 bu.; oats, 425,000 bu.; potatoes, 80,000 bu.; and hay, 28,000 tons.

The assessed valuation of the county in 1917 was $4,769,994, and, according to the assessor's rolls, the county contained the following livestock: Horses, 14,48; milch cows, 1,499; other cattle, 20,134; sheep, 66,956; swine, 434.

## POWELL COUNTY.

Lying immediately west of the main range of the Rocky Mountains and containing one of the first agricultural sections west of the continental divide is Powell county, organized in 1901. It was carved from the old county of Deer Lodge, from which, also, were taken the counties of Silver Bow and Granite.

The industries of the county are mining, stock growing and farming. In 1858 placer gold was discovered and this, it is claimed, was what lead to the settlement of Montana. The placers have been worked from early days and much gold recovered. Quartz mines are to be found on both sides of the Deer Lodge valleys and there are valuable properties in the Ophir and Ovando and Elliston districts. Sapphires have been found in Dry Cottonwood Creek, not far from Deer Lodge, the county seat.

Deer Lodge valley where much farming is done on irrigated tracts, has an exceptionally rich soil. Dry land farming is profitable, there being abundant rainfall. The valley is served by two railroads, the Milwaukee and the Northern Pacific, and has an area of about 300,000 acres of farm lands and 500,000 acres of grazing land. Its typography consists of a stretch of river bottom from 10 to 15 miles wide and gently rolling bench lands from fifty to five hundred feet above the river level. The lower slopes are generally irrigated, the benches being used for dry farming. The foothills are grazing lands. The altitude of the valley is 4500 feet above sea level and the climate mild and healthful. Few winter days see zero weather.

According to government reports the rainfall is 18.38 inches annually and comes largely in April, May, June and July, the growing months for crops. Evaporation is at a minimum, owing to absence of hot winds.

The soil in the valley varies from a rich black loam to a light chocolate, in depth from ten inches to ten feet. It has a gravelly sub-soil and produces heavy crops of wheat, oats, barley, flax and field peas without appreciable exhaustion of the soil.

Alfalfa and hay are big crops in Powell county, but there have been big crops of winter wheat, oats, barley and flax, fruit and garden truck. Dairying and poultry offer exceptional inducements as well as hog raising. The proximity of the markets of Buttte and Anaconda are a big factor in making intensive farming pay big profits.

The valleys of the Little Blackfoot, though not extensive has many good farms. The Big Blackfoot valley is a fine stock country which will change to a farming district when railroads enter it. On some of the large ranches and on smaller ranches and homesteads, excellent crops have been raised. The northern part of Powell county is almost exclusively a stock raising district at present. Cultivated grasses make large yields and the native grasses are abundant and nutritious. Water is plentiful and is furnished by mountain streams, springs and wells which vary in depth from ten to thirty feet.

In the northern part of the county the timber is ample for a considerable amount of lumbering and there is an abundance of fuel.

The main line of the Northern Pacific after crossing the main divide follows the course of the Little Blackfoot and at Garrison is joined by the line from Butte, extending through the Deer Lodge valley. The Milwaukee railroad runs through the Deed Lodge valley.

Deer Lodge, the county seat is a city of beautiful homes, has churches and graded schools and St. Mary's Academy for girls and the College of Montana, an

Digitized by Google

old institution of higher learning. There are many substantial business houses, banks and cement sidewalks, waterworks and sewerage system. The Montana State Prison is located at Deer Lodge.

Other towns are Elliston on the Little Blackfoot in a mining district, Garrison, a railroad junction point, Ovando and Helmville, the latter the principal trading town in the northern part of the county and surrounded by a good farming region.

The county has an area of 2,549 square miles, including 218,684 acres of unreserved and unappropriated public land available for entry under the homestead act, 49,000 acres of state land and 621,500 acres of national forests. About 575,000 acres of the county are privately owned. Its population is estimated at 8,500.

The assessed valuation of the county is 1917 was $6,030,202, and, according to the assessor's rolls, the county contained the following livestock: Horses, 4,627; milch cows, 1,528; other cattle, 15,772; sheep, 71,733; swine, 889.

## PRAIRIE COUNTY.

Until two counties were created by legislative enactment at the last session of the assembly, Prairie county was the youngest county in the state. It was formed from parts of Custer and Dawson counties in 1915. Prior to being created the section was well improved and since then it has gone ahead rapidly and it will be only a matter of a short time when every tillable acre will be under the plow.

Located as it is in the heart of the "corn belt" of Montana it produces heavily of that crop as well as wheat, oats, barley, flax and potatoes. Practically every kind of vegetable thrives and the growing season is long. Corn, therefore, is certain to mature.

The county is well watered by the Yellowstone river which traverses it from west to east and by a number of tributaries of the river. Irrigation is practiced, however, to a very limited extent, non-irrigated acres having produced abundantly.

The normal rainfall is considerably in excess of fifteen inches, more than half of which falls during the growing season of April, May and June. The climate is not unlike that of Iowa and other middle western statets and the altitude is approximately 2300 feet. The nights are cool and the winters not severe.

Two railroads pass through the county, the Northern Pacific and the Chicago, Milwaukee & St. Paul, both of which reach Terry, the largest town and the county seat. The town next in importance is Fallon. Both enjoy good trade and are growing rapidly.

Prairie county's area is 1,685 square miles. It has nearly 100,000 acres of land subject to homestead entry, 50,000 selected state lands and about 650,000 acres privately owned.

The assessed valuation of the county in 1917 was $5,037,584, and, according to the assessor's rolls, the county contained the following livestock: Horses, 10,087; milch cows, 2,377; other cattle, 13,806; sheep, 21,825; swine, 1,485.

## RAVALLI COUNTY.

Dairying, horticulture and general farming are the occupations of the people of Ravalli, one of the richest and best improved counties in Montana. Lumbering, also, is a profitable industry.

The county is located in the famous Bitter Root valley, noted because of the salubrity of the climate, the fertile soil and beautiful scenery. All but about 15 miles of this valley, which is 75 miles long and varies in width from a mile to 15 miles, lies in Ravalli county.

An abundance of water for irrigation come from the Bitter Root river, one of the headwaters of the Columbia river. In the winter the mercury seldom falls to zero, for the valley is protected by the Bitter Root and Rock mountain ranges. The valley is one of the best watered in the west. Fine roads and the park to park highway make the valley a favorite of tourists.

In this section the first wheat, oats and potatoes were grown. They were planted under the direction of Father DeSmet who built the first church in Montana in 1841. The first saw mill and flour mill in what is now Montana were built by the missionaries assisted by the Flathead Indians who inhabited the section at the time. The county was named Ravalli after Father Ravalli, one of the missionaries among the Indians. It was created in 1893 from a part of Missoula county.

Digitized by Google

In the early days of the county a number of orchards were planted and the results were such that it was realized the valley possessed great possibilities as a fruit raising country. Horticulture, accordingly, became a well established industry and is today. Much capital was invested in irrigation and the land is intensively cultivated.

In the last few years a change has come over the valley and the diversified farm has come into its own. Small farms are now the rule. The average would be 60 acres. Fruit farms are plentiful and apples, particularly the McIntosh Red, are raised to perfection. Small fruits grow in abundance, while cherries, both sweet and sour are establishing a place in the world markets for the Bitter Root products. Experts have pronounced the valley as ideal for the dairy industry and it is taking an important rank. It boasts the first cow testing association to be formed in Montana and the Bitter Root Cooperative Creamery the maker of a butter which has taken so many prizes is the pride of the valley. In addition there are cheese factories at Victor, Woodside, Corvallis and Hamilton and a creamery at Hamilton.

The poultry industry of the valley also leads the state at the fairs and in the amount of the annual business. Hogs are largely raised and beef cattle and sheep are a big item. In general farming the main crops are potatoes, sugar beets, peas, both for canning and for seed, alfalfa, timothy and clover and grains of all kinds. Practically every thing is grown in the valley except melons, and semi-tropical fruits. Corn is now being grown with some success but has not as yet become an important crop.

Its forest clad mountains furnish an abundance of logs for lumbering. On the West Fork paying gold placer mines are in operation. In the center of the valley near Victor a zinc mine is in operation and at many points rich copper prospects are found. At Darby a coal mine is in operation. On the foot hills dry farming is successfully cultivated and beef cattle and sheep are grazed. All these things contribute to the valley but its main resources are agriculture and upon that its future will depend.

Hamilton, the largest city and the county seat has a population of 2,240 by the last census. It has a large department store, creamery, planer, cheese factory, nine churches, a fine system of schools, and many stores. It has paved sidewalks and electric lights.

Stevensville is a city of about 1000. It owns its own water works, has electricity, is the home of the Bitter Root Creamery Company and has a canning factory. It is well supplied with churches and has a fine school system, including a high school.

Darby, Victor, Corvallis and Florence are all thriving towns, each with a large consolidated school.

Ravalli county is in the Missoula land district and its area is 2,391 square miles. It has about 6,000 acres of homestead land, 26,000 acres of state land, and 1,131,346 acres are within the forest reserves.

The assessed valuation of the county in 1917 was $7,060,655, and, according to the assessor's rolls, the county contained the following livestock: Horses, 6,455; milch cows, 4,091; other cattle, 10,617; sheep, 19,863; swine, 4,465.

## RICHLAND COUNTY.

This is one of the new counties of Montana, having been created in 1914 from the northeastern portion of Dawson county. Richland county is bounded on the north by the Missouri river, on the east by the North Dakota-Montana state line and on the south and west by Dawson county. It is approximately ninety miles long by fifty wide and contains within its borders some of the most fertile and productive land in the state. The Yellowstone river traverses the eastern part of the county, flowing northward to its junction with the Missouri, and its valley is from two to six miles in width, in this county.

The valley land is practically level; its soil is unusually rich and the valley is irrigated by the Lower Yellowstone project which was constructed by the government in 1908. There is no stone, gumbo nor sage-brush except in small spots. The principal crops under irrigation are alfalfa, all small grains, corn, potatoes and all vegetables including sugar beets of which there were about 1000 acres under cultivation this year. The present crop will be shipped to the sugar factory at Billings but it is expected that Richland county will have its own beet sugar factory at an early date.

Digitized by Google

While the Lower Yellowstone valley has one of the best irrigation systems in the United States, it is not necessary to irrigate to raise bumper crops on the up-lands or "bench lands" as they are called here, although large crops are raised by the proper use of water. Some of the "dry land" farmers claim that they can raise better and larger crops without irrigation than their irrigating neighbors can with water.

Generally speaking, the bench lands are rolling but quite level in places and then sometimes running off into rougher land along creeks and rivers. This land is practically free from stone, chololate loam in character and underlaid with clay subsoil. Lignite coal is found in abundance almost everywhere and good water in unlimited quantity can be obtained at depths varying from 20 to 60 feet on an average. The average depth for the Sidney district is about 30 feet.

This county is served by the Northern Pacific and Great Northern railways; the former running up from Glendive and the latter, connects with its present main line at Snowden. At this time the Great Northern is building its new main line which will extend from New Rockford, North Dakota to Lewistown, Montana, and this line runs through Richland county from east to west.

The principal towns in Richland county are Sidney, Fairview, Lambert, Savage, and Enid. There are a number of smaller places with stores, elevators, etc. Sidney is the largest and the county seat, being located at the junction of the Great Northern and Northern Pacific railways. It has a population of over two thousand and is known as one of the liveliest and cleanest little city in the state. It has modern water works, sewerage system, electric lights, hospital, high school, flour mill, substantial mercantile establishments and attractive homes.

Owing to the fact that there has been a large influx of immigration the past few years, what homestead land remains, is a considerable distance from the railroads. The new line of the Great Northern, however, will tap a large area of good farming land. There are about 300,000 acres of unappropriated lands subject to homestead entry, 91,000 acres of state land and 730,000 acres of land are privately owned.

The assessed valuation of the county is 1917 was $8,671,388, and, according to the assessor's rolls, the county contained the following livestock: Horses, 18,757; milch cows, 2,650; other cattle, 16,750; sheep, 2,628; swine, 3,197.

## ROSEBUD COUNTY.

From a part of Custer county in 1901, Rosebud county was created and in turn the latter lost a portion of its territory in the southern and western parts to Big Horn county, when the latter was organized in 1913.

Stockgrowing was practically the only industry when the county was formed in 1901 and it is still prominent among the industries. Large quantities of wool and many beef cattle are shipped every year.

Development of the county as a farming section has been rapid in recent years. Although Rosebud, comparitively speaking, is rather sparsely settled, newcomers have been flocking into the rich farming valleys of the Yellowstone and Rosebud the past two or three years. The irrigated lands in these valleys yield heavily of alfalfa, sugar beets, wheat, oats, corn, barley and vegetables. Corn especially is a fine crop and the vegetables are the wonder of those who see the exhibits at the State Fair. The irrigated lands yield 50 to 60 bushels of wheat; oats 70 to 90 bushels; sugar beets 18 to 20 tons; alfalfa, three cuttings a year, 2 to 6 tons an acre.

The county is served by two railroads—the Northern Pacific which follows the Yellowstone river from the eastern to the western boundary and the Chicago, Milwaukee and Puget Sound, which skirts the north bank of the river from the eastern boundary to Forsyth, turning from the latter point northwest and passing through that section, entering the Musselshell valley at the county line.

Forsyth, the county seat, is the largest and most important town not only in the county but in the territory between Miles City and Billings. It is, in short, a modern little city—a trading point for a stock growing and agricultural section. Large shipments of grain, stock and wool are made annually from Forsyth.

Other towns on the Northern Pacific are Rosebud, which is growing and enjoys a fine trade from a territory on both sides of the Yellowstone river and Hysham in the western part of the country. Sumatra is a town in the northwestern part of the county and located on the Chicago, Milwaukee and Puget

Digitized by Google

Sound road. It is a thriving place and boasts a number of stores, a newspaper and good schools.

The county lies in the Lewistown and Miles City land districts and has an area of 6,067 square miles, 950,000 acres of public land, about 194,000 acres of state land and 100,000 acres of national forests.

The assessed valuation of the county in 1917 was $13,087,440, and, according to the assessor's rolls, the county contained the following livestock: Horses, 15,434; milch cows, 855; other cattle, 35,028; sheep, 104,441; swine, 1,305.

## SANDERS COUNTY.

Sanders county lies in the extreme west end of the state, its western boundary being the Idaho line. It was created in 1906 and is named for Col. Wilbur F. Sanders, a distinguished pioneer.

The industries are farming, fruit growing, livestock, dairying, poultry raising, lumbering and mining. Such parts of the county as are not covered with forest are devoted to agriculture. The eastern part of the county includes a large area of the Flathead Indian reservation opened to settlement in 1910. It is largely prairie country and farming is the leading occupation. Dairying and wheat raising are the chief industries of the settlers.

In the reservation area a government irrigation project calculated to water about 25,000 acres of land is being completed. When it is in operation an enormously rich tract will have been developed.

The western half of the county is of a different character. Here the chief agricultural land lies in the narrow Clark's Fork river valley and in the valleys tributary thereto. The land is either cut-over land or natural meadow. Almost all of it is irrigable by private projects. Near Thompson Falls 3,000 acres in one tract are irrigated from Thompson river. This section of the county is admirably adapted to dairying—clover and other forage crops growing in abundance. The vast area of national forest reserve furnishes cheap pasturage.

The soil of Sanders county is of varying grades. The bottom lands are of deep sandy loam, while a gravely loam predominates on the bench lands. The climate is considerably milder than in the eastern part of the state. The rainfall varies from 15 inches at the east end to 30 inches at the west end.

Crops grown include wheat, clover, timothy, alfalfa, oats, potatoes, peas, barley. Fruit raising is extensive, some of the best orchards of the state being located in the Plains valley. Apples, plums, cherries, pears and strawberries do exceptionally well in the main valley.

The great forests are a valuable asset to the county. Along Thompson river is one of the most valuable stands of white pine to be found in the United States and the mountains elsewhere have valuable tracts of yellow pine, fir, cedar and larch. The pole and post industry is a profitable one. While much lumbering has been done in years past, the county's greatest woods are yet uncut.

Mining is an industry that is rapidly growing. This year many copper, silver, lead and gold producing properties in the territory around Trout Creek and Whitepine are being developed.

As an outdoor land, Sanders county can compete with any section of the United states. A score of wonderful trout fishing streams, great areas of virgin forests inhabited by deer, elk, cougar, bear, wildcats, mountain lions, bighorn and mountain goats offers the best of hunting and fishing. Camp sites at beautiful mountain lakes are easily accessible by National Forest trails.

Land in the cut-over section of the county sells at from $10 to $50 per acre, according to development. In the prairie section the price ranges from $20 to $75.

Thompson Falls is the county seat. Excellent schools, churches, two banks, two newspapers, good hotel and fine stores are established. A system of water works supplies the town from a mountain stream. Here is located the giant power plant of the Thompson Falls Power Co. A dam across the Clark's Fork river makes possible a development of 50,000 horsepower, all of which is used. Three other projects for power development are in the 25 mile stretch of river immediately below Thompson Falls.

Other growing farming towns in the west end of the county are Heron, Noxon, Trout Creek, Whitepine, Alger and Belknap.

Digitized by Google

Plains, in the productive Plains valley is the outlet for a large portion of the fertile reservation country. It has a system of water works, electric lights, elevator, a $25,000 public school building, four churches, two banks, a newspaper and good stores. Here is located the Plains flour mill which furnishes a local market for the wheat grown on the reservation. Some of the finest farms in the county are in the vicinity of Plains.

Paradise is the railroad division point of the Northern Pacific.

Hot Springs, an inland reservation town, has a big future. Located in the center of the irrigated territory, it is destined to be a big trading point as the farming area comes to complete development. The famous Camas hot springs located here attract many tourists and the development of these, which is to take place soon, will bring thousands of visitors from all over the United States. An electric railroad is a probability within a few years.

Perma is the outlet of a portion of the reservation farming country and enjoys a big trade.

Dixon is the market for the eastern portion of the reservation country and the fertile Moise valley in Missoula county. It is the southern terminus of a new railroad line to Polson at the foot of Flathead lake. Good stores, elevator, newspaper, and hotel are located here.

## SHERIDAN COUNTY.

Of all the new counties of the state, Sheridan, probably, has enjoyed the most rapid development and wide prosperiay. This county is located in the northeastern part of Montana. Canada is its northern boundary and North Dakota its eastern. Before it was created in 1913 out of a portion of Valley county, it had been a great grazing section and farming on non-irrigated land had been practiced to some extent not far from the Great Northern railroad. But it was not until a branch was begun from Bainville to Scobey, an inland trading point 18 miles from the international boundary, that the big influx of settlers took place. The lands were settled quickly and wheat farming on a large scale began. In 1915 the wheat production was 3,600,000 bushels and it was larger in 1916 and this year promises to be heavier than ever.

The entire country is a vast expanse of fertile prairie land. Dry farming methods are used and the rainfall is sufficient to assure good crops. The southwestern portion of the county lies in what was the Fort Peck Indian reservation opened to settlement in 1914 and most of this land has been taken, despite the fact that the price ran from $1.25 to $7 an acre.

In addition to wheat, Sheridan county has produced large quantities of flax, while corn and barley and oats also yield heavily. The land is well farmed and this accounts to some extent for the almost universally good yields. In the more remote sections grain growing is practiced and the wheat hauled as great a distance as 100 miles to the terminus of the Great Northern branch at Scobey.

Scobey is one of the numerous rapidly growing towns. It is the shipping point for a vast territory and is rapidly becoming one of the most important towns of the county. Plentywood, the county seat, is located about 50 miles east of Scobey and boasts a population of close to 4,000. There are grain elevators, two newspapers, electric lights and waterworks. It is a modern place and has substantial buildings and all conveniences. The town is about seven years old. Froid, Medicine Lake, Homestead, Antelope, Flaxville, Redstone, and Boyer are other growing towns on the Bainville branch. The Soo line which parallels the Canadian boundary for sixty miles or more into Sheridan county has a number of good towns, among which are Whitetail, Ranouse, Outlook, Raymond, Dooley and McElroy. On the main line of the Great Northern along the southern boundary are Culbertson, Poplar, and Wolf Point, trading points for not only the southern part of the county but for the northern part of Richland.

Sheridan is in the Glasgow land office district and its area is 5,103 square miles, including about 173,000 acres of state land. There are probably 500,000 acres of homestead land.

The assessed valuation of the county in 1917 was $12,150,723, and, according to the assessor's rolls, the county contained the following livestock: Horses, 25,952; milch cows, 8,492; other cattle, 17,767; sheep, 3,729; swine, 2,993.

## SILVER BOW COUNTY.

Butte, which is practically Silver Bow county, from a railroad point of view, is the cross roads of the west, it having the advantage of the Northern Pacific,

Digitized by Google

Great Northern, Chicago, Milwaukee and St. Paul, Oregon Short Line, and the Burlington, which pass through it. It is the logical distributing point and trading center of Western Montana, parts of Idaho, Washington, Utah and Wyoming and the Dakotas.

Figures show that Butte pays out in freight charges annually $10,000,000. Statistics reveal that Butte distributed 159 cars of bananas, 14 cars of beans, 200 cars of eggs and poultry, 235 cars of canned goods, 101 cars of canteloupes and melons, 96 cars of cereals and edibles, 244 cars of cheese, 27 cars of crackers, 420 cars of flour, 439 cars of fresh fruits, 24 cars of dried fruits, 542 cars of livestock, 5 cars of macaroni, 465 cars of meats, 35 cars of pickles and sauces, 88 cars of salt, 116 cars of sugar, 33 cars of syrup, 10 cars of tea, 782 cars of vegetables. These do not include commodities which are brought in by farmers and by the wagon load.

The population of Butte is estimated at about 100,000 and is cosmopolitan. Its hospitality is well known. It is known as the greatest mining city in the world and produces annually over 300,000,000 pounds of copper a year. Zinc is also produced in large quantities and the Butte & Superior mine is considered one of, if not the largest individual zinc mines of the world.

The zinc production for 1916 was nearly 800,000 tons. Twelve millions ounces of silver and $1,000,000 in gold and about 25,000 tons of lead are mined annually in Butte.

The surroundings of the city are picturesque and there are numerous excellent roads along scenic routes leading out of the city to points in the state. The climate is healthful and bracing. Good fishing and hunting is within easy distance and good hotels are available. There are nearly 30 public schools, seven parocial schools an up to date high school affording technical training. At Butte, also is located the State School of Mines and annually turns out a class of mining engineers whose theoretical education has been supplemented by much practical work in the mines and smelters.

There are forty two churches, Protestant and Catholic, in the city, with almost every religious denomination represented.

Practically every fraternal organization is present. The water supply of the city is among the best, coming from reservoirs fed by mountain streams and springs. It has a street railway company with a record of efficiency which has not been excelled. There are six large banking institutions. These banks have never found it necessary to resort to script or clearing house paper but have always operated on a strictly cash basis. The banks are liberal in their support of legitimate business.

For a pleasure resort the city has Columbia Gardens, which lies in a canyon a short distance from the city, where Senator W. A. Clark has spent thousands to beautify the place.

There are amusements of every kind and some of the theatres are models of architecture. The electrification of Montana lines through Butte is attracting tourists from every quarter and in this new field Butte sets the pace for other states and countries.

Butte offers an inviting field for investment and there are excellent opportunities for expansion in many lines of business. The building and construction of homes during the past year has been enormous. Permits to the amount of $1,944,377 were issued from May 1st, 1916 to May 1st, 1917. The pay roll of the city for June last was $3,351,639. The coal consumption for 1916 was 431,565 tons. The gas consumption 70,471,000 cubic feet. The assessed valuation of the city was $27,300,000 and the county of Silver Bow $61,178,915. Butte employed in the mines for 1916 14,500 underground and 4,000 on the surface. Crop productions are beginning to show up better than heretofore, it having been considered that Butte and its vicinity was a strictly mining and not an agricultural ground.

The assessed valuation of the county in 1917 was $77,958,160, and, according to the assessor's rolls, the county contained the following livestock: Horses, 2,458; milch cows, 1,812; other cattle, 1,909; sheep, 13,482; swine, 1,048.

## STILLWATER COUNTY.

Farming and stock raising are exclusively the industries of the inhabitants of Stillwater county. The countiy lies in the heart of the agricultural section of southeastern Montana and is one of the oldest farming communities of the state.

Around Absarokee are to be found many irrigated farms, where intensive farming is practiced and a good deal of fruit is raised. But for the most part the

Digitized by Google

lands are non-irrigated and the yields are excellent. There is little good homestead land left in the county, but improved farm land may be had at $30 an acre and unimproved farm land at $20 and less.

The county which was created in 1913 out of parts of Sweetgrass, Carbon and Yellowstone counties is well watered in the southern part by the Stillwater river which flows north and empties into the Yellowstone at Columbus. The northern part of the county lies in what is known as the Lake Basin country and is highly developed. This section is soon to be tapped by a branch of the Northern Pacific. The Northern Pacific passes through the county west and east.

Additional shipping facilities are desired for the Stillwater valley and an electric road to tap this rich farming section, as well as the timber and mineral deposits is planned.

The principal town is Columbus, the county seat with a population of more than 1,000. It is well lighted and modern and has a dozen or more retail stores, two newspapers, two elevators and two lumber yards, schools and churches. Columbus sandstone which was used in the construction of a portion of the State Capitol at Helena, is quarried profitably near the county seat. A flour mill and a cheese factory are among the possibilities for the town, as dairying is rapidly becoming an established industry.

There are 1,684 square miles in the country's area and it includes about 40,000 of unappropriated acres subject to entry under the homestead act, 50,000 acres of state land and 525,000 acres are privately owned.

Among the crops which produce heavily are wheat, oats, barley, flax, potatoes, sugar beets and hay.

The assessed valuation of the county in 1917 was 5,999,530, and, according to the assessor's rolls, the county contained the following livestock: Horses, 8,875; milch cows, 2,672; other cattle, 12,131; sheep, 30,456; swine, 2,840.

## SWEETGRASS COUNTY.

One of the best watered of the counties is Sweetgrass, which was organized in 1895 and lies in the couthern part of the state. The Yellowstone river bisects it and from the south the Boulder and Stillwater rivers flow down from a high range of mountains. The Sweet Grass and Big Timber creeks rise in the north and empty into the Yellowstone. The northern part of the county is drained by tributaries of the Musselshell river. When Wheatland was created this year the northern row of townships was taken.

Fertile valleys along the principal streams, furnish the agricultural districts. The Yellowstone valley is 55 miles long and an average of two miles wide. Other valleys are the Boulder, Big Timber, Sweet Grass, American Fork and Otter Creek valleys. Irrigation ditches constructed by the settlers bring abundant water to the crops of hay and stockgrowing consequently is a profitable industry. Sheep ranches are common and a tremendous amount of wool is shipped from this county.

Farming is conducted both on irrigated and dry lands. The irrigated farms are under privately owned ditches but a large amount of water is furnished by the Big Timber Carey Act project. Since the completion of the project, many settlers have flocked in and the land is being rapidly developed into grain growing and fruit producing farms. The yield of oats, wheat, flax and potatoes on these lands is heavy—wheat going from 20 to 40 bushels an acre and flax as high as 25 bushels. Potatoes are of remarkable size and yield. Alfalfa is the chief crop raised on the irrigated lands and goodly yields are also reported from the non-irrigated tracts. The soil is fertile and the rainfall of 20 inches assures good crops by the dry land farming method.

Dairying should be a profitable business, for the county affords excellent native grasses, a surplus of pure water and has a fine climate. Hog raising of late is attracting considerable attention.

Big Timber, the county seat, is a growing town, with elevators, creamery, newspaper, hotels, stores and handsome residences, electric lights, waterworks system and court house. There is 20,000 horse power available from the river and only 20 of it has been developed. Melville and McLeod are towns which do a big business in the stock growing and agricultural sections.

Sweetgrass county has an area of 2,065 square miles, 150,000 acres of homestead lands, more than 72,000 selected state land acres and 414,000 acres of forest reserves.

Digitized by Google

The assessed valuation of the county in 1917 was $6,249,974, and, according to the assessor's rolls, the county contained the following livestock: Horses, 6,593; milch cows, 2,364; other cattle, 19,255; sheep, 105,800; swine, 1,331.

## TETON COUNTY.

Teton county lies next to Canada and is east of the Rocky Mountains. It has an area of 6,566 square miles. It was created in 1893. The western boundary is the mountains where many streams rise and flow east, affording means for irrigation of valleys and low lands to the east. The varying altitudes give to the county a varied climate. The snowfall is heavy in the mountains and less in the slopes to the east. The Marias and Teton rivers and their numerous tributaries and creeks water the entire county. The trend of all the streams is toward the east. The average rainfall is about 16 inches. The Blackfeet Indian reservation and a portion of Glacier National Park are in this county and the scenic beauty of those sections attract many tourists.

Stock raising has been for years the chief industry of the people. There are or were vast herds of cattle, horses and sheep and of late years much attention has been paid to the breeding of blooded stock. The wool clip from this county is large and there are many noted ranches, established during the early days of the state.

In recent years farming has been gaining by leaps and bounds. In the eastern and central portions of the county there are wide expanses of fine prairie land and these are being rapidly taken. Yields on the dry land farmers are large and from 18 to 35 bushels of wheat are an average crop. The yields of oats and barley are correspondingly high. The Burton bench is a large farming district where wheat yields about 40 bushels to the acre and the heaviest oats in the state have been raised there, going as high as 85 bushels to the acre. Flax has made heavy yields in several sections and at Conrad there is a factory which makes fiber from flax straw.

The largest irrigation project is located at Valier, which contemplates the reclamation of 126,000 acres including 40,565 acres of deeded land. The farming carried on in the irrigated district is highly successful. Near Valier there is a large colony of Belgians who have developed the section wonderfully by means of intensive farming.

In the western part of the county there are indications of minerals but not much has been done in the way of development. Coal is mined in several places and much prospecting for oil and gas has been done within the past year, owing to the proximity of the country to the gas fields of Canada and Hill county in this state.

Valier lies in the center of the Valier Carey Act project and is located on the bank of a large artificial lake and has grown wonderfully in the past four years. It is the terminus of the Montana Western railroad which connects at Conrad with the Great Northern.

Conrad, the principal town, has about 200,000 acres of irrigated land and 600,000 of unirrigated acres of land tributary to it. It is a shipping point for grain and stock. Cut Bank is a railroad and trading point adjoining the Blackfeet Indian reservation. Choteau is the county seat, an attractive place of probably 1200 population. It is located in the Teton valley and has a large farming section surrounding it.

There are about 200,000 acres of homestead lands still available to entry and 155,000 acres of state lands while the national forests embrace about 435,000 acres.

The assessed valuation of the county in 1917 was $14,078,194, and, according to the assessor's rolls, the county contained the following livestock: Horses, 26,869; milch cows, 5,412; other cattle, 27,116; sheep, 88,696; swine, 2,941.

## TOOLE COUNTY.

Toole, which is one of the smaller counties of the state was formed from portions of Hill and Teton counties in 1914 and is another Montana county which lies along the Canadian boundary.

Farming is the chief industry and this is conducted almost entirely upon non-irrigated lands. Wheat, oats, barley and flax are the principal grains grown, the latter being especially favored and producing bountifully.

Natural gas has been encountered while drilling for oil in certain sections of the county but it has not been found in sufficient quantity to be valuable com-

Digitized by Google

mercially. That sinking to greater depth will bring in gas wells seems certain for the pressure becomes more pronounced as drilling continues. Traces of oil have been found.

Shelby, the county seat, is the largest town of the county and is on the Great Northern railroad and a trading point for a good agricultural community. Sweetgrass is a town close to the Canadian boundary and is the port of entry from the Dominion. Galata and Devon in the eastern part of the county are growing towns.

The Marias river forms a portion of the southern boundary of the county and flows through the southeastern portion. The eastern part is watered by several creeks, the largest of which is Willow.

There are ranches along the creeks and stockraising is secondary in importance only to farm. Formerly the country was used almost exclusively as a grazing proposition.

The population of the county is about 8,000 and its area 1,949 square miles. It is in the Great Falls and Havre land districts and there are more than 100,000 acres of land subject to homestead entry, 110,000 acres of state land. There are about 315,000 acres of land privately owned.

The assessed valuation of the county in 1917 was $5,310,374, and, according to the assessor's rolls, the county contained the following livestock: Horses, 7,504; milch cows, 1,818; other cattle, 7,838; sheep, 29,984; swine, 843.

## VALLEY COUNTY.

Valley county lying next to the northeastern county of Montana, has made marvelous progress in agriculture within the past ten years and is now accounted one of the best agricultural sections, embracing as it does, a considerable amount of land in the Milk River irrigation project.

Its northern boundary is Canada. East of it is Sheridan county, south is Dawson county and Phillips county lies to the west.

It is approximately 110 miles long and 73 miles wide, embraces an area of 5,496 square miles, of which 40,000 acres is irrigated land, 326,000 state lands and the remainder approximately 2,000,000 acres is owned privately or is reserved for homestead entry.

Valley county was organized in 1893 but has gradually been reduced in size, Sheridan county and Phillips county having been sliced from it, the former in 1913 and the latter in 1915. Without this territory, however, it is still one of the largest counties in the state and development is rapid.

Valley, like the rest of eastern Montana, was presumed to be merely grazing ground for sheep and cattle but has been transformed and today is one of the greatest farming districts in Montana. The chief industry, now, is farming.

Homestead land is no longer plentiful. It is being fast taken and land seekers are buying deeded lands at reasonable prices which are steadily increasing.

Wheat, oats, barley, flax, speltz and hay and corn are the principal crops grown, and yield well. Wheat has yielded 60 bushels to the acre, oats 110, and flax 40. These are exceptional yields and the average is lower.

Wool is a goodly clip in Valley county but not as much as in previous years, owing to extensive farming.

The county claims to produce the best spring wheat in America for milling purposes. Valley county farms are large and fields of 500 acres or more are common. Farming by irrigation is succesful and large crops are produced under the lower Milk River Irrigation Project.

The sportsman finds Valley county a favorite resort for sage hen, prairie chickens, wild ducks, wild geese, grouse and other game birds. Deer hunting along the Missouri river is an annual sport.

The principal cities of Valley county are Glasgow, Hinsdale, Opheim, Nashua, Glentana, Baylor and Oswego.

Glasgow is the county seat, with a population of approximately 4,000 people. It is situated on the main line of the Great Northern Railway about half way between Spokane, Washington, and St. Paul, Minnesota. The Wonderland Trail extending from Duluth, Minnesota, to Seattle, Washington, passes through Glasgow. The country surrounding Glasgow was a great buffalo country. Cattle were introduced in 1885 and the last buffalo were killed in 1896. Glasgow was founded in 1887 with the coming of the railroad and was named by the late James J. Hill.

Digitized by Google

The U. S. Land Office is located here. It has excellent schools, beautiful homes, and is one of the best business towns in Montana. Flour milling is the largest industry.

Opheim, Glentana and Baylor are in the heart of one of the richest agricultural districts in Montana and are tributary to Glasgow. These have been built in the last three years and are now up-to-date towns with modern facilities. They are situated 40 to 55 miles from the Great Northern Railway.

Nashua is a fast growing town adjacent to the Fort Peck Reservation as is Oswego. Hinsdale is a thriving town and has made great strides in the past year.

The estimated population of Valley county is 28,250.

The assessed valuation of the county in 1917 was $7,182,165, and, according to the assessor's rolls, the county contained the following livestock: Horses, 19,723; milch cows, 3,947; other cattle, 19,927; sheep, 66,498; swine, 1,810.

## WHEATLAND COUNTY.

Wheatland is one of the youngest counties of the state, having come into existence as such April 1, 1917, by legislative enactment. Its area is 1,436 square miles, 252 square miles having been taken from Sweetgrass and 1,184 square miles from Meagher county. It is compact in form, being about forty miles square. Two railroads traverse it, the Chicago, Milwaukee & St. Paul and the Billings and Northern. It is almost entirely pastoral in character, its industries confined to farming and stockgrowing. Territory, south of Twodot is being explored for petroleum.

Both winter and spring wheat grow equally well in Wheatland, and other grains such as barley, oats and flax yield abundantly. In the production of cattle, sheep and horses it is not excelled by any other section of the state. The county is well watered, the principal stream being the Musselshell river, which flows through the southern part. The rainfall is generous, approximately twenty-six inches annually.

The bottom lands lying along the Musselshell are especially adapted to the growing of alfalfa, and from these, three good crops are annually obtained. Irrigation is practiced to a considerable extent, but this is not required in the growing of the cereals. Dry land farming is most successfuly engaged in, and it is upon these the best wheat is produced. Spring wheat yields from twenty to thirty bushels per acre under ordinary conditions, while the output from the winter wheat tracts is anywhere from thirty to fifty-five bushels per acre.

Improved dry lands sell at from $20 to $35 dollars an acre, while irrigated lands sell at from $50 to $75 an acre. Within the past five years Wheatland county has been thoroughly settled by homeseekers, and within its borders there is little desirable government lands subject to entry.

Harlowton is the county seat of Wheatland county, and its population is 2,000. It is on the main line of the Milwaukee Railway system, and the eastern terminus of that road's electrification system; it is also a freight and passenger division, and the southern terminus of the Lewistown-Great Falls branch. The city is equipped with water and sewage systems, is a distributing point for the Montana Power Co., is very substantially built with fine business blocks and spacious residences, has large flouring mill, three churches, exceptionally good schools, two banks, one newspaper.

The estimated population of Wheatland county is 7,000.

The following will give an idea of how productive Wheatland county lands are in the growing of wheat:

| Grower | Acres | Bushels |
|---|---|---|
| J. I. Langstone | 43 | 52 |
| J. H. Leckey | 80 | 55 |
| Melvin Eads | 80 | 52 |
| Clarence Morgan | 100 | 53 |
| Tooley, Baxter & Tice | 375 | 50 |
| H. B. Myers | 60 | 48 |
| Labrie Ranch Co. | 89 | 43 |
| Rob Montgomery | 10 | 56 |
| L. L. Dixon | 116 | 38½ |
| Wm. McFarland | 310 | 35 |
| Jim Trimmer | 40 | 47 |

Digitized by Google

The assessed valuation of the county in 1917 was $7,719,980, and, according to the assessor's rolls, the county contained the following livestock: Horses, 4,575; milch cows, 1,417; other cattle, 15,829; sheep, 70,741; swine, 1,331.

## WIBAUX COUNTY.

Wibaux, known as the "gateway" county to Montana, through which pass all Northern Pacific trains into the state, probably has more acres under cultivation, proportionate to its size, than any other county in the state. It is the third smallest county in Montana.

There are five elevators with a combined capacity of 250,000 bushels in the principal town, which is an indication of the farming that is done. Great quantities of wheat and oats are marketed, as well as barley, corn, flax and potatoes. The county borders on North Dakota. The soil and the long growing season make corn a good crop. There is but little land which is not tillable and most of the desirable homestead land has been taken. Privately owned land, improved and unimproved, may be bought for a reasonable price per acre. The unimproved land brings from $15 to $18 and the improved about $25 an acre.

The principal town is Wibaux, which has a population of close to 1,000. There are two banks, fifteen to twenty retail establishments, a creamery, five elevators, two or three garages, two hotels, city water works, newspapers and an electric lighting plant, good schools and a number of churches. The town has a metropolitan appearance. A flour mill is being built.

Beaver Creek flows northward through the county and the valley is fertile. Very little of the land is irrigated. The Northern Pacific railroad bisects the county from east to west and other towns along this road are: Yates, Heckman, Beaver, Hill and Hodges.

The county is in the Miles City district and has an area of 944 square miles, with 30,000 acres unappropriated lands subject to homestead entry, about 31,000 of selected state land and 430,000 of privately owned acres.

The assessed valuation of the county in 1917 was $3,481,414, and, according to the assessor's rolls, the county contained the following livestock: Horses, 5,760; milch cows, 2,348; other cattle, 8,130; sheep, 1,955; swine, 850.

## YELLOWSTONE COUNTY.

Yellowstone county is the most important and populous of the counties in Yellowstone Valley, with a population of 37,000, and is named from the Yellowstone River which traverses it. Its chief industries are farming and stock growing, and it is situated in the center of the largest irrigated district in the state. In recent years, however, the farming development has extended over the entire county and the lands above the ditches are now producing wonderful returns in grain and forage crops.

Average yields of land in the irrigated districts are uniformly high. Alfalfa and sugar beets are the great crops in the valley, the yield of the former being 3 to 6 tons an acre and on the latter from 10 to 20 tons. Oats yield from 50 to 90 bushels per acre, wheat from 40 to 60 bushels and corn from 30 to 50 bushels. Barley of the finest malting variety is grown. Potatoes yield from 200 to 400 bushels to the acre, and the largest known yield from one acre, 1,213 bushels, was made near Laurel in this county. Vegetables of various kinds do well and are grown successfully for shipment to distant points. Berries are very profitable; apples do splendidly and many orchards have been set out. Fruit growing is an increasing industry and the products of the orchards sell for a large sum annually.

Billings is the county seat of Yellowstone county and has a population of about 19,000, having nearly doubled in population since 1910, when it numbered 10,031 citizens.

Billings is the largest railroad, financial and distributing center in eastern Montana and supplies a huge section of country in southeastern Montana and northern Wyoming, known as the Midland Empire. It is the home of a great many wholesale concerns and makes a specialty of the jobbing business. It is a thoroughly modern and up-to-date city with every convenience.

The Midland Empire Fair, the largest and most important in the state, except the State Fair, is held under the direction of Yellowstone county at Billings each year, where prize products from the entire Midland Empire are exhibited. It has the largest covered auditorium in the northwest.

Digitized by Google

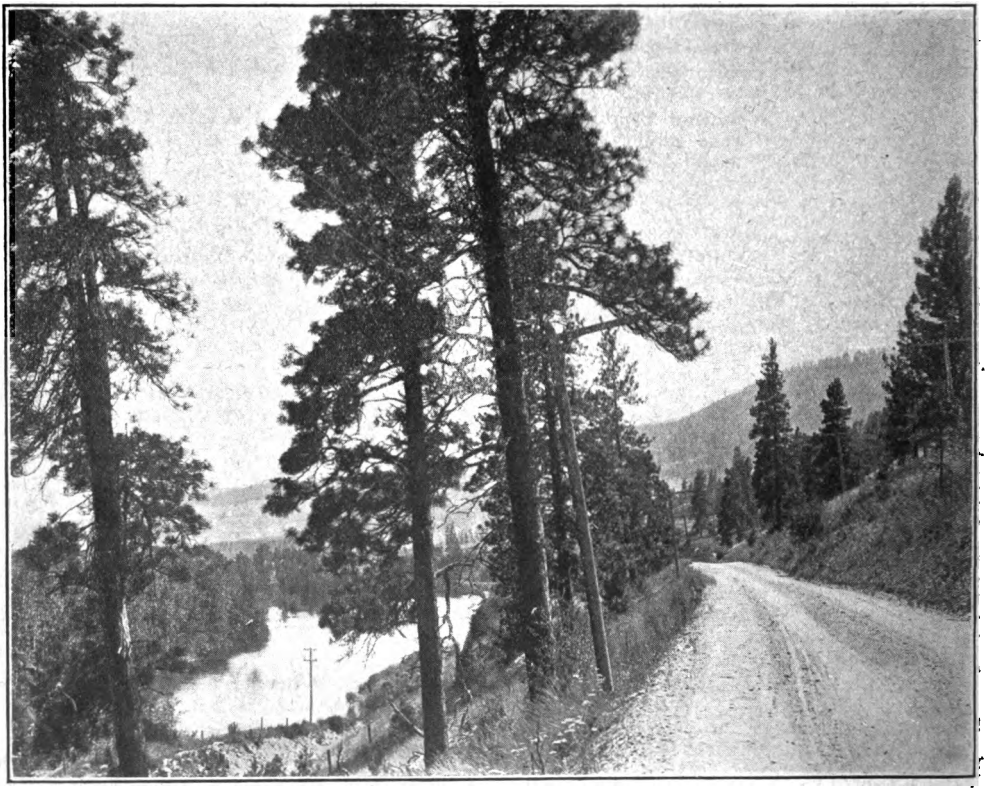
The climate of Yellowstone county is delightful. It is located in the southern part of the state, and it is protected by the mountains tempering the climate at all times of the year. The winters are not rigorous and the growing season is long. During the past five years the average temperature for December, January and February has been 29 degrees above zero. Spring opens early; and plowing and planting is commonly done before the rainy season, April, May and June, in which months half the annual rainfall of over 15 inches falls. The long days of sunshine are ideal for the maturing and harvesting of crops.

The Yellowstone valley is the oldest beet growing section of the state, and the sugar beet factory at Billings pays the farmers a million and a half dollars each year for beets, and manufactures 60,000,000 pounds of sugar.

Irrigated lands range in price from $50 to $250 per acre. Excellent non-irrigated farm lands range in price from $15 to $50 per acre.

The other towns of the county are: Laurel, which has a population of 1500 and is a rapidly growing railroad division point with large railroad shops; Broadview, a thriving town in the non-irrigated district of the Lake Basin. Huntley, Worden and Ballantne are reclamation project towns, situated on the government Huntley Reclamation Project. Custer, Pompeys Pillar, Acton, Comanche and Shepherd are rapidly developing towns in good communities.

The assessed valuation of the county in 1917 was $19,762,991, and, according to the assessor's rolls, the county contained the following livestock: Horses, 12,761; milch cows, 5,044; other cattle, 15,138; sheep, 60,584; swine, 2,922.



Good Roads Along Mountain Streams

Digitized by Google

## DIRECTORY U. S. OFFICIALS

U. S. Senator.....THOMAS J. WALSH, Helena
U. S. Senator.....HENRY L. MYERS, Hamilton
Representative.....JOHN M. EVANS, Missoula
Representative.....JEANNETTE RANKIN, Missoula
Marshal.....JOSEPH L. ASHBRIDGE, Helena
District Attorney.....BURTON K. WHEELER, Butte
District Judge.....GEORGE M. BOURQUIN, Butte
Surveyor General.....HENRY GERHARZ, Helena

## DIRECTORY OF STATE OFFICIALS.

Governor.....SAMUEL V. STEWART
Private Secretary to Governor.....WILL AIKEN
Lieutenant Governor.....W. W. McDOWELL
Secretary of State.....CHARLES T. STEWART
Attorney General.....SAMUEL C. FORD
Adjutant General.....PHIL GREENAN
State Treasurer.....H. L. HART
State Auditor, Insurance and Investment Commissioner.....R. G. POLAND
State Superintendent of Public Instruction.....MAY TRUMPER
Chief Justice Supreme Court.....THEODORE BRANTLY
Associate Justices Supreme Court.....SIDNEY SANNER, W. L. HOLLOWAY
Clerk Supreme Court.....J. T. CARROLL
Superintendent of Banks and Bank Examiner.....H. S. MAGRAW
State Historical Librarian.....W. Y. PEMBERTON
Recorder of Marks and Brands.....D. W. RAYMOND
State Land Agent.....C. A. WHIPPLE
Register State Lands.....SIDNEY MILLER
State Veterinarian.....W. J. BUTLER
State Forester.....J. C. VAN HOOK
State Engineer.....A. W. MAHON
State Commissioner Agriculture and Publicity.....CHARLES D. GREENFIELD
State Fish and Game Warden.....J. L. DeHART
State Commissioner of Labor and Industry.....W. J. SWINDLEHURST
State Dairy Commissioner.....WILLIAM H. FLUHR

State Live Stock Commission...
J. H. BURKE, Helena, Pres
WALLIS HUIDEKOPER, Wallis, Vice-Pres.
H. B. MITCHELL, Great Falls
JOHN A. WOODSON, Crow Rock
GEORGE T. FARRELL, Ronan
T. B. STORY, Bozeman
D. W. RAYMOND, Secretary

State Highway Commission.....
OSCAR ROHN, Butte, Pres.
HUGH R. WELLS, Miles City, Vice-Pres.
A. W. MAHON, Helena, Secretary
F. H. JOHNSON, Kalispell
C. H. BUFORD, Virginia City
FRANK CONLEY, Deer Lodge
C. W. MORRISON, Fort Benton
SAM WEBB, Columbus
D. T. CURRAN, Missoula
H. A. TEMPLETON, Great Falls
E. A. RICHARDSON, Forsyth
T. F. HAGAN, Glendive

Board of Dental Examiners.....T. M. HAMPTON, Helena, Pres. G. A. CHEVIGNY, Butte, Sec'y.
Board of Medical Examiners.....DR. P. H. McCARTHY, Butte, Pres. DR. S. A. COONEY, Helena, Sec'y.
Chancellor State Educational Institutions.....E. C. ELLIOTT, Helena
Board of Education.....GOVERNOR STEWART, Pres. MAY TRUMPER, Sec'y

Digitized by Google

| | |
|---|---|
| Board of Equalization | S. V. STEWART, Pres.<br>C. T. STEWART<br>R. G. POLAND<br>S. C. FORD<br>H. L. HART<br>J. J. RYAN, Clerk |
| State Horticulturist | A. L. STRAUSZ, Missoula<br>LAURA B. ELLITHORP, Missoula, Clerk |
| State Board of Health | D. J. DONOHUE, Butte, Pres.<br>W. J. BUTLER, Vice-Pres.<br>W. G. Cogswell, Helena, Sec'y. |
| State Fair Board | SID J. COFFEE, Missoula, Pres.<br>R. S. SKINNER, Helena, Sec'y. |
| State Osteopathic Examiners | ASA WILLARD, Missoula, Pres.<br>CHARLES W. MAHAFFAY, Helena, Sec'y. |
| Board of Pharmacy | W. R. MONTGOMERY, Butte<br>EMIL STARZ, Helena, Sec'y |
| Board Poultry Husbandry | JOHN REES, Anaconda, Pres.<br>W. F. SCHOPPE, Bozeman, Sec'y. |
| Board Charities and Reform | REV. J. F. McNAMEE, Helena, Pres.<br>MRS. R. A. RIDGE, Billings, Sec'y.<br>DR. B. C. BROOKE, Helena |
| Bureau of Child and Animal Protection | M. L. RICKMAN, Sec'y., Helena |
| State Livestock Sanitary Board | J. H. BURKE, Helena, Chairman.<br>W. J. BUTLER, Helena, Secretary |
| State Industrial Accident Board | A. E. SPRIGGS, Chairman<br>G. G. WATT, Sec'y., Helena |
| Montana State Game and Fish Commission | J. L. KELLY, Anaconda, Chairman<br>NELSON STORY, JR., Bozeman, Secretary<br>J. L. DeHART, Helena<br>W. M. BICKFORD, Missoula<br>M. D. BALDWIN, Kalispell |
| Railroad and Public Service Commission | DAN BOYLE, Chairmar<br>J. E. McCORMICK and<br>J. H. HALL, Commissioners, Helena<br>CHARLES P. COTTER, Sec'y., Helena |
| State Board of Examiners in Veterinary Medicine and Surgery | F. S. GRAY, Great Falls, Pres.<br>A. D. KNOWLES, Missoula, Sec'y-Treas. |
| State Board of Examiners for Nurses | FLORENCE AMES, Billings, Pres.<br>MARGARET HUGHES, Helena, Sec'y |

Coining the Year's Grain Crop into Dollars

Digitized by Google

# NEWSPAPER DIRECTORY OF MONTANA.

| County and City | Name of Paper | Politics | Printed | Editor | Publisher |
|---|---|---|---|---|---|
| **BEAVERHEAD** | | | | | |
| Dillon | Examiner | Independent | Wednesday | C. E. Adams | Examiner Printing Co. |
| Dillon | Tribune | Republican | Friday | F. E. Foote | Tribune Pub. Co. |
| Wisdom | News | Independent | Thursday | Richard Hathaway | Richard Hathaway. |
| **BIG HORN** | | | | | |
| Hardin | Tribune | Independent | Friday | Robert A. Vickers | Vickers and DeTuncq. |
| **BLAINE** | | | | | |
| Chinook | Democrat | Democratic | Friday | Ed. T. Pierson | Ed. T. Pierson. |
| Chinook | Opinion | Republican | Thursday | H. B. Brooks | Opinion Pub. Co. |
| Harlem | News | Democratic | Friday | H. C. Anderson | H. C. Anderson. |
| Turner | Advocate | Independent | Monday | Ed. T. Pierson | Ed. T. Pierson. |
| Zurich | Promoter | Independent | Saturday | Ed. T. Pierson | Ed. T. Pierson. |
| **BROADWATER** | | | | | |
| Townsend | Star | Independent | Thursday | T. N. Averill | T. N. Averill. |
| Toston | Sun | Independent | Friday | Alex. Watkins | Alex. Watkins. |
| **CARBON** | | | | | |
| Red Lodge | Journal | Democratic | Wednesday | Chas. H. Draper | Chas. H. Draper. |
| Red Lodge | Picket | Republican | Friday | W. R. Spencer | W. R. Spencer. |
| Bridger | Times | Republican | Friday | J. T. Spencer | J. T. Spencer. |
| Fromberg | Herald | Independent | Thursday | C. C. Crossen | C. C. Crossen. |
| Joliet | Independent | Independent | Thursday | Herrick Swan | Herrick Swan. |
| **CARTER** | | | | | |
| Alzada | Fairplay | Democratic | Friday | Wm. O'Shaughnessy | Wm. O'Shaughnessy. |
| Boyes | Blaze | Democratic | Friday | A. U. Robinson | A. U. Robinson. |
| Pienele | Leader | Democratic | Thursday | Chas. S. Einsel | Chas. S. Einsel. |
| Ekalaka | Eagle | Democratic | Friday | O. A. Dahl | O. A. Dahl. |
| Ekalaka | Press | Republican | Friday | Emil Johnson | Emil Johnson. |
| **CASCADE** | | | | | |
| Great Falls | Tribune | Democratic | Daily & Wednesday | W. M. Bole | The Tribune, Inc. |
| Great Falls | Leader | Republican | Daily & Weekly | E. H. Cooney | The Leader Co. |
| Great Falls | Husbandman | Ind. Dem. | Thursday | R. N. Sutherlin | R. M. Husbandman Co. |
| Great Falls | Montana Farmer | Agricultural | Friday | H. P. Griffin | The Tribune, Inc. |
| Great Falls | Trade Journel | Independent | Monthly | H. P. Raban | Tribune Publishing Co. |
| Great Falls | Equity News | Non-Partisan | Thursday | Herbert Peet | Amer. Coc. of Equity. |
| Great Falls | Mont. Newsp'r Ass'n | Non-Partisan | Thursday | O. F. Wadsworth | Mont. Newspaper Ass'n. |
| Belt | Belt Valley Times | Republican | Thursday | J. B. Densmore | Belt Valley Times Co. |
| Cascade | Courier | Democratic | Friday | Chas. W. Tierney | William F. Berger. |
| Geyser | Times | Independent | Friday | C. B. Dudley | C. B. Dudley. |
| Simms | Enterprise | Ind. Dem. | Friday | Fred Schoensigel | Fred Schoensigel. |
| **CHOUTEAU** | | | | | |
| Fort Benton | River Press | Republican | Daily & Weekly | W. K. Harber | River Press Pub. Co. |
| Fort Benton | Independent | Republican | Friday | B. H. Kreis | B. H. Kreis. |
| Big Sandy | Mountaineer | Republican | Thursday | H. S. Flint | H. S. Flint. |
| Carter | Herald | Democratic | Wednesday | Eliz B. Sessons | Eliz B. Sessons. |
| Geraldine | Review | Democratic | Saturday | G. E. Shawler | G. E. Shawler. |
| Highwood | Teller | Independent | Friday | L. S. Johnson | L. L. Johnson. |
| Loma | Ledger | | Thursday | D. F. Swenson | D. F. Swenson. |
| Square Butte | Tribune | Independent | Friday | Robert W. Mackie | Robert W. Mackie. |
| **CUSTER** | | | | | |
| Miles City | American | Democratic | Thursday | Glen Ramsey | American Print Co., Inc. |



Digitized by Google

# NEWSPAPER DIRECTORY OF MONTANA—Continued.

| County and City | Name of Paper | Politics | Printed | Editor | Publisher |
|---|---|---|---|---|---|
| CUSTER—Cont. | | | | | |
| Miles City | Star | Republican | Daily | Jos. D. Scanlan | Independent Prtg. Co. |
| Miles City | Miles City Journal | Non-Partisan | Daily | L. P. Bennett | Journal Pub. Co. |
| Miles City | Independent | Republican | Friday | Jos. D. Scanlan | Independent Ptg. Co. |
| Miles City | Stockgrowers Journal | Non-Partisan | Wednesday | L. P. Bennett | Journal Pub Co. |
| Miles City | Boys Messenger | Non-Partisan | Monthly | The Boys | State Industrial School. |
| Ismay | Journal | Ind. Rep. | Friday | H. W. Wilson | H. W. Wilson. |
| DAWSON | | | | | |
| Glendive | Yellowstone Monitor | Democratic | Thursday | E. A. Martin | E. A. Martin. |
| Glendive | Independent | Republican | Tuesday | J. R. Widmyer | J. R. Widmyer. |
| Glendive | Review | Republican | Thursday | H. T. Allen | H. T. Allen. |
| Brunelda | Banner | | | | |
| Circle | Banner | Democratic | Friday | Ben M. Larson | Ben M. Larson. |
| Circle | Redwater Valley Pioneer | Ind. Dem. | Saturday | F. S. Kalberg | F. S. Kalberg. |
| Edwards | Times | Independent | Saturday | Newton H. Reintz | Newton H. Reintz. |
| Hamblin | Enterprise | Ind. Dem. | Saturday | L. E. Thompson | L. E. Thompson. |
| Jordan | Gazette | Democratic | Thursday | Jos. P. Parker | Jos. P. Parker. |
| Paxton | Pilot | Independent | Thursday | Forest Gaines | Forest Gaines. |
| Sand Springs | Prairie Breezes | Democratic | Saturday | W. H. Gibson | D. L. Watson. |
| Richey | Herald | Independent | | H. G. Ketcham | H. G. Ketcham. |
| Brackaway | Bulletin | | | | |
| DEER LODGE | | | | | |
| Anaconda | Standard | Democratic | Daily | C. H. Eggleston | W. A. Bower, Mgr. |
| FALLON | | | | | |
| Baker | Fallon County Times | Democratic | Thursday | B. H. Tipton | B. H. Tipton. |
| Baker | Sentinel | Republican | Friday | Louis A. Conser | Louis A. Conser. |
| Plevna | Herald | Independent | Friday | George J. Buergi | George J. Buergi. |
| Carlyle | Informer | | Friday | J. L. Dilley | J. L. Dilley. |
| FERGUS | | | | | |
| Lewistown | Democrat-News | Democratic | Daily | Tom Stout & E. G. Ivins | Democrat News Co. |
| Lewistown | Fergus Co. Democrat | Democratic | Thursday | Tom Stout & E. G. Ivins | Democrat News Co. |
| Lewistown | Fergus Co. Argus | Republican | Friday | J. A. Gilluly | J. A. Gilluly. |
| Coffee Creek | Herald | Democratic | Wednesday | Curtis Burns | Curtis Burns. |
| Denton | Recorder | Democratic | Thursday | J. W. Altizer | J. W. Altizer. |
| Denton | Independent | | | | |
| Grass Range | Review | Independent | Thursday | R. B. Vrooman | J. M. Vrooman. |
| Hilger | Herald | Democratic | Saturday | A. R. Thompson | A. R. Thompson. |
| Hobson | Judith Basin Star | Independent | Thursday | J. C. Raitt | J. C. Raitt. |
| Moccasin | Dispatch | Independent | Thursday | Chas. A. Burdick | Chas. A. Burdick. |
| Moore | Independent | Republican | Thursday | J. R. Overholser | J. R. Overholser. |
| Roy | Enterprise | Democratic | Thursday | Ed. R. Johnson | A. R. Thompson. |
| Stanford | World | Democratic | Thursday | W. R. Henderson | W. R. Henderson. |
| Valentine | News | Democratic | Thursday | G. F. Budweiser | G. F. Budweiser. |
| Windham | Leader | Independent | Friday | C. H. Smith | C. H. Smith. |
| Winifred | Times | Democratic | Friday | R. F. Cranston | R. F. Cranston. |
| Winnett | Times | Democratic | Wednesday | Homer E. Geis | Homer E. Geis. |
| FLATHEAD | | | | | |
| Kalispell | Bee | Democratic | Tues. & Friday | Fred Whiteside | Bee Pub. Co. |
| Kalispell | Journal | Democratic | Thursday | G. M. Houtz | G. M. Houtz & Son. |
| Kalispell | Times | Republican | Thursday | H. L. Knight | Knight and Cade. |
| Kalispell | Interlake | Republican | Daily | L. D. Spafford | Interlake Pub. Co. |

Digitized by Google

| | | | | | |
|---|---|---|---|---|---|
| **FLATHEAD—Cont.** | | | | | |
| Columbia Falls | Columbian | Independent | Thursday | C. E. Clemens | C. E. Clemens. |
| Dayton | Leader | Democratic | Weekly | R. H. Copeland | R. H. Copeland. |
| Polson | Courier | Republican | Thursday | C. P. Cowman | C. P. Cowman Prg. Co. |
| Whitefish | Pilot | Democratic | Tuesday & Friday | F. R. Tallman | F. R. Tallman. |
| **GALLATIN** | | | | | |
| Bozeman | Chronicle | Democratic | Daily & Thursday | Jas. P. Bole | Chronicle Pub. Co. |
| Bozeman | Courier | Republican | Wednesday | W. J. McCulley | Henry F. Sears. |
| Bozeman | Exponent | Non-Partisan | Friday | College Students | Republican Courier Co. |
| Belgrade | Journal | Independent | Thursday | M. S. Carpenter | Belgrade Journal Co. |
| Manhattan | Record | Republican | Thursday | Claude M. Woodward | Claude M. Woodward. |
| Three Forks | News | Democratic | Thursday | W. C. Ballard | Three Forks Pub. Co. |
| Three Forks | Herald | Independent | Thursday | P. S. Dorsey | P. S. Dorsey. |
| **GRANITE** | | | | | |
| Philipsburg | Mail | Republican | Friday | Lawrence Hauck | Lawrence Hauck. |
| Drummond | News | Independent | Thursday | Chas. E. Anderson | Chas. E. Anderson. |
| **HILL** | | | | | |
| Havre | Hill Co. Democrat | Democratic | Saturday | J. K. Bramble | J. K. Bramble. |
| Havre | Plaindealer | Democratic | Saturday | S. Y. B. Williams | Havre Plaindealer. |
| Havre | Promoter | Republican | Daily | E. A. Henderson | O. H. P. Shelley. |
| Box Elder | Valley Press | Independent | Friday | P. H. Hersey | P. H. Hersey. |
| Chester | Democrat | Democratic | Friday | D. P. Van Horne | D. P. Van Horne. |
| Fresno | Sentinel | Democratic | Saturday | M. H. Casey | M. H. Casey. |
| Gildford | Tribune | Democratic | Friday | J. T. Casey | J. T. Casey. |
| Hingham | Review | Independent | Friday | Berkley Walker | Berkley Walker. |
| Inverness | News | Independent | Friday | Axel Olsson | Axel Olsson. |
| Joplin | Times | Independent | Thursday | Axel Olsson | Axel Olsson. |
| Kremlin | Chancellor | Democratic | Friday | Matt H. Casey | Matt H. Casey. |
| Rudyard | Dispatch | Democratic | Friday | A. J. Danielson | A. J. Danielson. |
| Simpson | Border Call | Democratic | Friday | C. E. Evans | J. T. Casey. |
| Laredo | Tribune | Democratic | Thursday | J. L. Owens | J. L. Owens. |
| Miller | Prairie-Advocate | Democratic | Thursday | Edward Roberts | Edward Roberts. |
| **JEFFERSON** | | | | | |
| Boulder | Monitor | Independent | Saturday | H. R. Young | H. R. Young. |
| Whitehall | Jefferson Valley News | Independent | Thursday | F. C. Fessenden | F. C. Fessenden. |
| **LEWIS & CLARK** | | | | | |
| Helena | Independent | Democratic | Daily | Will A. Campbell | Independent Pub. Co. |
| Helena | Record-Herald | Republican | Daily & Thursday | P. B. Snelson | Record Pub. Co. |
| Helena | Stockman & Farmer | Agricultural | Semi-monthly | Glenn L. Foster | N. W. Stock. & Farm., Inc. |
| Helena | Hermanns-Sohn | Fraternal | Monthly | | |
| Helena | Messenger | Non-Partisan | Monthly | Charles L. Bovard | Naegele & Co. |
| Helena | Montana Churchman | Religious | Monthly | F. R. Bateman | F. R. Bateman. |
| Helena | Montana Banker | Financial | Monthly | A. B. Casteel | A. B. Casteel. |
| Helena | Quarterly Comments | Financial | Every 3 Months | Geo. W. Casteel | Banking. Corp. of Mont. |
| Augusta | News | Democratic | Friday | R. H. Copeland | R. H. Copeland. |
| Gilman | Optimist | Democratic | Friday | Will J. Rendall | Will J. Rendall. |
| **LINCOLN** | | | | | |
| Libby | Western News | Democratic | Thursday | Jas. E. Stevens | Kennedy & Lang. |
| Libby | Kootenai Times | Republican | Wednesday | C. G. Campbell | C. G. Campbell. |
| Eureka | Journal | Independent | Thursday | Oscar F. Wolf | Oscar F. Wolf. |
| Troy | Echo | Republican | Friday | B. N. Kennedy | B. N. Kennedy. |
| **MADISON** | | | | | |
| Virginia City | Madisonian Times | Independent | Friday | T. E. Castle | Madisonian Pub. Co. |
| Twin Bridges | Monitor | Independent | Wednesday | H. A. Moore | Jos. T. Shea. |
| Twin Bridges | Independent | Republican | Friday | J. R. Jones | Twin Bridges Pub. Co. |

Digitized by Google

# NEWSPAPER DIRECTORY OF MONTANA—Continued.

| County and City | Name of Paper | Politics | Printed | Editor | Publisher |
|---|---|---|---|---|---|
| **MEAGHER** | | | | | |
| White Sulphur Spgs. | Republican | Ind. Rep. | Friday | M. E. McKay | M. E. McKay. |
| **MINERAL** | | | | | |
| Superior | Mineral Co. Press | Democratic | Thursday | Ross Hargrave | Ross Hargrave. |
| Superior | Mineral Independent | Democratic | Thursday | Ira Cole | Ira Cole. |
| **MISSOULA** | | | | | |
| Missoula | Missoulian | Independent | Daily | Martin J. Hutchens | Lester L. Jones. |
| Missoula | Sentinel | Independent | Daily | Martin J. Hutchens | Lester L. Jones. |
| Missoula | New Northwest | Independent | Friday | E. B. Craighead | E. B. Craighead. |
| Missoula | Montana Kaimen | Non-Partisan | Tues. & Thurs. | Emmet Riordan | Students of University. |
| Missoula | Konah | Non-Partisan | Semi-monthly | Arthur Jacobson | Missoulian Pub. Co. |
| Missoula | Inter-Mountain Educator | Educational | Monthly | M. J. Elrod | Wm. G. Ferguson, Mgr. |
| Missoula | Montana Motorist | Good Roads | Monthly | Leslie M. Wood | W. H. Castner. |
| Ronan | Pioneer | Independent | Friday | E. H. Rathbone | E. H. Rathbone. |
| St. Ignatius | Post | Independent | Friday | A. W. Nelson | Post Pub. Co. |
| **MUSSELSHELL** | | | | | |
| Roundup | Tribune | Democratic | Thursday | C. V. Woodard | Roundup Tribune Co. |
| Roundup | Record | Republican | Friday | A. W. Eiselein | A. W. Eiselein. |
| Lavina | Independent | Independent | Friday | Evan Lee | Evan Lee. |
| Melstone | Messenger | Independent | Friday | J. H. Jesser | J. H. Jesser. |
| Musselshell | Advocate | Independent | Friday | W. W. Holmes | M. W. Stockwell. |
| Rygate | Reporter | Independent | Thursday | Chas. H. Allan | Chas. H. Allan. |
| **PARK** | | | | | |
| Livingston | Enterprise | Democratic | Daily | W. J. McMahon | Livingston Pub. Co. |
| Livingston | Park County News | Republican | Friday | Geo. R. Desch | Hammond Printing Co. |
| Clyde Park | Herald | Democratic | Friday | J. E. Mallery | J. E. Mallery. |
| Wilsall | Shields Valley Record | Republican | Thursday | Oscar H. Loe | Oscar H. Loe. |
| **PHILLIPS** | | | | | |
| Malta | Call | Democratic | Wednesday | P. R. Flint | P. R. Flint. |
| Malta | Enterprise | Republican | Thursday | Henry A. Johnson | Henry A. Johnson. |
| Dodson | Montana Idea | Independent | Friday | C. C. Mills | C. C. Mills. |
| Saco | Independent | Republican | Friday | W. D. Miller | W. D. Miller. |
| **POWELL** | | | | | |
| Deer Lodge | Silver State | Democratic | Thursday | Joseph Smith, II. | Joseph Smith, II. |
| Deer Lodge | Post | Democratic | Friday | C. E. Aspling | C. E. & J. S. Aspling. |
| **PRAIRIE** | | | | | |
| Terry | Tribune | Republican | Friday | E. H. McDowell | E. H. McDowell. |
| Terry | Messenger | Democratic | Thursday | Harry L. Smith | Harry L. Smith. |
| Mildred | Forum | Democratic | Thursday | R. C. Marks | R. C. Marks. |
| Fallon | Herald | Independent | Thursday | A. W. Misselius | A. W. Misselius. |
| **RAVALLI** | | | | | |
| Hamilton | Ravalli Co. Record | Non-Partisan | Thursday | Bruce Wells | Bruce Wells. |
| Hamilton | Western News | Democratic | Tuesday & Friday | Miles Romney | Miles Romney. |
| Hamilton | Ravalli Republican | Republican | Friday | J. C. Conkey | J. C. Conkey. |
| Stevensville | Northwest Tribune | Ind. Dem. | Friday | J. R. Faulds | J. R. Faulds. |
| Stevensville | Register | Non-Partisan | Thursday | Bruce Wells | Bruce Wells. |
| **RICHLAND** | | | | | |
| Sidney | Herald | Independent | Friday | Harry G. Ketcham | Harry G. Ketcham. |
| Sidney | Richland Co. Chief | Independent | Saturday | Clemmensen & Owens | Clemmensen & Owens. |
| Enid | Echo | Republican | Thursday | Geo. S. Walker | Geo. S. Walker. |
| Fairview | Times | Democratic | Thursday | E. C. Hicks | E. C. Hicks. |

Digitized by Google

| | | | | | |
|---|---|---|---|---|---|
| **RICHLAND—Cont.** | | | | | |
| Lambert | Promoter | Independent | Thursday | Sam F. Jarvis | Sam F. Jarvis. |
| Savage | Yellowstone Valley Star | Republican | Thursday | M. A. Frissell | M. A. Frissell. |
| **ROSEBUD** | | | | | |
| Forsyth | Democrat | Democratic | Thursday | Jack McCausland | McCausland & Patterson. |
| Forsyth | Times-Journal | Republican | Thursday | E. J. Fleming | Times Journal Co. |
| Hysham | Echo | | Thursday | W. T. Sherman | W. T. Sherman. |
| Ingomar | Index | Democratic | Thursday | Geo. D. Skinner | Geo. D. Skinner. |
| Rosebud | Record | | Friday | Mrs. M. L. Knappen | H. P. Knappen. |
| Sumatra | Record | Democratic | Friday | C. H. Polk | C. H. Polk. |
| **SANDERS** | | | | | |
| Thompson | Sanders Co. Ledger | Independent | Friday | H. C. Austin | H. C. Austin. |
| Thompson | Independent Enterprise | | | W. E. McCarter | J. J. Clyde. |
| Camas | Sanders Co. Signal | Independent | Friday | Alex R. Rhone | Alex R. Rhone. |
| Dixon | Herald | Independent | Friday | G. A. Williams | G. A. Williams. |
| Plains | Plainsman | Independent | Friday | Guy Stratton | Guy Stratton. |
| **SHERIDAN** | | | | | |
| Plentywood | Sheridan Co. News | Democratic | Friday | Geo. W. Tilton | G. W. Tilton. |
| Plentywood | Pioneer Press | Democratic | Friday | Geo. Weatherhead | Geo. Weatherhead. |
| Plentywood | Herald | Republican | Friday | C. S. Nelson | C. S. Nelson. |
| Antelope | Independent | Independent | Friday | Antelope Pub. Co. | Antelope Pub. Co. |
| Bainville | Valley Tribune | Republican | Thursday | A. S. Hier | A. S. Hier. |
| Brockton | Bulletin | Democratic | Thursday | Dale Curran | D. Curran. |
| Culbertson | Searchlight | Republican | Friday | F. S. Reed | F. S. Reed. |
| Dooley | Sun | Democratic | Friday | W. R. Vezina | W. R. Vezins. |
| Scobey | Sentinel | Democratic | Friday | W. E. Johnson | W. E. Johnson. |
| Scobey | Citizen | | | Geo. Cook | M. E. Cook. |
| Flaxville | Democrat | Democratic | Friday | P. A. Paulsen | P. A. Paulsen. |
| Froid | Tribune | Independent | Friday | A. R. Butler | A. R. Butler. |
| Madoc | Recorder | Democratic | Thursday | W. E. Johnson | W. E. Johnson. |
| Medicine Lake | Wave | Republican | Thursday | John H. Dolin | John. H. Dolin. |
| Mondak | Yellowstone News | Republican | Saturday | C. W. Drake | C. W. Drake. |
| Outlook | Promoter | Democratic | Thursday | John L. Burns | John L. Burns. |
| Poplar | Standard | Democratic | Thursday | C. W. Jerome | Poplar Standard Pub. Co. |
| Redstone | Review | Republican | Friday | Arthur Cole | Arthur Cole. |
| Westby | News | Pro-Rep | Friday | R. V. Simmons | R. V. Simmons. |
| Whitetail | Courier | Democratic | Saturday | I. J. Doerr | I. J. Doerr. |
| Wolf Point | Herald | Democratic | Friday | C. L. Marshall | J. P. Weist. |
| **SILVER BOW** | | | | | |
| Butte | Miner | Democratic | Daily & Thursday | J. L. Dobell | Butte Miner Co, |
| Butte | Independent | Democratic | Saturday | J. B. Mulcahy | J. B. Mulcahy. |
| Butte | Daily Post | Ind. Rep. | Daily & Semi-Weekly | J. H. Durston | Inter-Mountain Pub. Co. |
| Butte | Tribune Review | Republican | Saturday | Sam M. Roberts | Oates & Roberts. |
| Butte | Montana-American | Democratic | Friday | Byron E. Cooney | Byron E. Cooney. |
| **STILLWATER** | | | | | |
| Columbus | Stillwater Co. Democrat | Democratic | Saturday | Walter L. Hurd | Showen & Hurd. |
| Columbus | News | Republican | Thursday | James T. Annin | James T. Annin. |
| Park City | Pioneer | Ind. Dem. | Friday | Francis T. Ellis | Francis T. Ellis. |
| Reed Point | Review | Independent | Friday | Charles M. Smith | Charles M. Smith. |
| Absarokee | Enterprise | Independent | Friday | Mrs. L. O. Edmunds | Mrs. L. O. Edmunds. |
| **SWEETGRASS** | | | | | |
| Big Timber | Pioneer | Republican | Thursday | Jerome Williams | Jerome Williams. |
| **TETON** | | | | | |
| Choteau | Montanan | Republican | Friday | C. E. Trescott | C. E. Trescott & Son. |
| Choteau | Acantha | Independent | Wednesday | Max B. Bishop | Max B. Bishop. |
| Brady | Citizen | Democratic | Thursday | W. F. Aldrich | W. F. Aldrich. |

Digitized by Google

# NEWSPAPER DIRECTORY OF MONTANA—Continued.

| County and City | Name of Paper | Politics | Printed | Editor | Publisher |
|---|---|---|---|---|---|
| TETON—Cont. | | | | | |
| Bynum | Herald | Non-Partisan | Thursday | W. H. Patrick | W. H. Patrick. |
| Conrad | Independent | Democratic | Thursday | T. A. Busey | T. A. Busey. |
| Conrad | Observer | Republican | Thursday | John F. Ferguson | John R. Farris. |
| Cut Bank | Pioneer Press | Republican | Friday | Daniel Whetstone | Daniel Whetstone. |
| Dutton | Sentinel | Independent | Friday | W. R. Lathrop | W. R. Lathrop. |
| Fairfield | Times | Democratic | Tuesday | Fred Schoensigel | Fred Schoensigel. |
| Valier | Valierian | Republican | Friday | H. F. Laeuger | H. F. Laeuger. |
| TOOLE | | | | | |
| Shelby | Promoter | Democratic | Friday | C. G. Bishop | C. G. Bishop. |
| Devon | Register | Democratic | Saturday | Roy E. Stoner | Roy E. Stoner. |
| Galata | Journal | Republican | Thursday | Henry O. Woare | Henry O. Woare. |
| Sweet Grass | Advocate | Independent | Friday | E. R. Holderby | E. R. Holderby. |
| VALLEY | | | | | |
| Glasgow | Democrat | Democratic | Friday | Dan B. McGovern | Dan B. McGovern. |
| Glasgow | Courier | Republican | Friday | T. J. Hocking | T. J. Hocking. |
| Glasgow | Valley Co. News | Pro. or Ind. | Tuesday & Friday | W. E. Rhodes | Rhodes Printing Co. |
| Barr | Courant | Democratic | Friday | Frank Tooke | Frank Tooke. |
| Baylor | World | Independent | Friday | Paul S. Paulsen | Jos. A. Whetstone. |
| Glentana | Reporter | Democratic | Friday | Jos. A. Whetstone | Jos. A. Whetstone. |
| Hinsdale | Tribune | Democratic | Friday | Frank Tooke | Frank Tooke. |
| Nashua | Independent | Republican | Thursday | Roy T. Gordon | Gordon & Son. |
| Opheim | Optimist | Democratic | Friday | Charles L. Coy | Charles L. Coy. |
| Oswego | Valley Co. Reporter | Democratic | Thursday | Mann & Skare | Mann & Skare. |
| Tango | Tribune | Democratic | Friday | Charles L. Coy | Charles L. Coy. |
| Frazer | Promoter | Democratic | Thursday | J. W. Calfee | N. A. Mann. |
| Thoeny | Review | Democratic | Friday | F. Van Wagenen | McCarty & Van Wagene |
| Avondale | Advocate | Democratic | Friday | Paul S. Paulson | Jos. A. Whetstone. |
| WHEATLAND | | | | | |
| Harlowton | Press | Democratic | Friday | T. J. Johns | F. E. Johns. |
| Hedgesville | Herald | Prohi. | Thursday | H. N. McConnehry | H. N. McConnehry. |
| Judith Gap | Journal | Non-Partisan | Friday | Lyle A. Cowan | Lyle A. Cowan. |
| WIBAUX | | | | | |
| Wibaux | Pioneer | Democratic | Friday | Ray L. Linder | Pioneer Co. |
| Wibaux | Beaver Valley Gazette | Republican | Thursday | Chas. E. White | Chas. E. White. |
| YELLOWSTONE | | | | | |
| Ballantine | Project Progress | Independent | Thursday | E. E. Engberg | Engberg & Green. |
| Billings | Evening Journal | Democratic | Daily | H. S. Rogers | Gazette Printing So. |
| Billings | Times | Democratic | Thursday | M. C. Morris | M. C. Morris & Sons. |
| Billings | Gazette | Non-Partisan | Daily & Semi-weekly | Leon Shaw | Gazette Printing Co. |
| Billings | Midland Empire Farmer | Republican | Monthly | W. W. Gail | Mid. Empire Pub. Co. |
| Broadview | Independent | Independent | Thursday | N. P. Sherman | Leonard & Sherman. |
| Huntley | Journal | Independent | Friday | C. F. Elder | Journal Prg. Co. |
| Laurel | Outlook | Independent | Wednesday | Jas. Gehrett | Gehrett & Price. |
| Pompeys Pillar | Pompeys Pillar Rock | Independent | Friday | E. E. Engberg | Engberg & Green. |

Digitized by Google

# INDEX


| | Page |
|---|---|
| Absences allowed from homestead | 20 |
| Acres homestead lands | 18 |
| Acres irrigated lands | 31 |
| Acres state lands | 25 |
| Acres, total assessed | 16 |
| Agricultural college | 90 |
| Alfalfa | 10 |
| Apples, varieties grown | 49 |
| Area of Montana | 5 |
| Assessed valuation state | 5 |
| Average acre production | 6 |
| Banks and banking | 53 |
| —footings of banks | 53 |
| —increases in a year | 53 |
| Beaverhead county, description and products | 93 |
| —assessed valuation | 93 |
| —homestead and state lands in | 93 |
| Big Horn county, description and products | 94 |
| —assessed valuation | 94 |
| —homestead and state land in | 94 |
| Billings project, cost, crops, etc. | 39 |
| Big Timber project, cost, crops, etc. | 39 |
| Blackfeet Reclamation project | 37 |
| Blaine county, description and products | 94 |
| —assessed valuation | 95 |
| —homestead and state lands in | 94 |
| Broadwater county, description and products | 95 |
| —assessed valuation | 95 |
| —homestead and state land in | 95 |
| Carey Land Act projects | 38 |
| Carbon county, description and products | 96 |
| —assessed valuation | 96 |
| —homestead and state land in | 96 |
| Carter county, description and products | 97 |
| —assessed valuation | 97 |
| —homestead and state land in | 97 |
| Cascade county, description and products | 97 |
| —assessed valuation | 98 |
| —homestead and state land in | 98 |
| Cattle, number, value, shipments | 42 |
| Cheese factories, number and production | 47 |
| Chouteau county, description and products | 98 |
| —assessed valuation | 99 |
| —homestead and state land in | 99 |
| Churches | 91 |
| Citizenship of Montana | 85 |
| Climate | 71 |
| Coal mines, production | 62 |
| Conservation of game, game preserves | 78 |
| Copper production | 61 |
| Corn, acreage, production, value | 30 |
| County high schools | 89 |
| Cows, number and value | 48 |
| Creameries, number and production | 47 |
| Custer county, description and products | 99 |
| —assessed valuation | 100 |
| —homestead and state land in | 100 |
| Dairying | 47 |
| Dawson county, description and products | 100 |
| —assessed valuation | 101 |
| —homestead and state land in | 101 |


Digitized by Google

| | Page |
|---|---|
| Deer Lodge county, description and products | 101 |
| —assessed valuation | 102 |
| —homestead and state land in | 102 |
| Denominational schools | 90 |
| Directory state and U. S. officials | 129 |
| Endowment public schools | 89 |
| Equal suffrage | 88 |
| Fairs, county and state | 86 |
| Fallon county, description and products | 102 |
| —assessed valuation | 102 |
| —homestead and state land in | 102 |
| Farm legislation | 85 |
| Farm loans | 85 |
| Farm organizations | 86 |
| Fergus county, description and products | 102 |
| —assessed valuation | 103 |
| —homestead and state land in | 103 |
| Fishing, species of fish, streams, etc. | 79 |
| Flathead county, description and products | 103 |
| —assessed valuation | 104 |
| —homestead and state land in | 104 |
| Flathead reclamation project | 37 |
| Flatwillow project | 40 |
| Flax, acreage, production and value | 29 |
| Foreword | 4 |
| Fort Peck reclamation project | 37 |
| Fraternal organizations | 91 |
| Fruit growing, districts, varieties of fruit | 40 |
| Gallatin county, description and products | 105 |
| —assessed valuation | 106 |
| —homestead and state land in | 106 |
| Game and fish | 78 |
| Glacier National Park | 81 |
| Grain grading | 86 |
| Gold production | 61 |
| Granite county, description and products | 106 |
| —assessed valuation | 106 |
| —homestead and state land in | 106 |
| Hail insurance, state | 86 |
| Hatcheries, fish | 80 |
| Hill county, description and products | 106 |
| —assessed valuation | 107 |
| —homestead and state land in | 107 |
| History of mining | 56 |
| Homesteads open to filing | 24 |
| Horses, number, value, shipments | 43 |
| Huntley reclamation project | 34 |
| Hunting licenses | 79 |
| Hydro-electric power | 65 |
| —horsepower developed | 65 |
| —electric railways | 66 |
| —number and capacity of plants | 68 |
| Industrial laws | 87 |
| Initiative and Referendum | 88 |
| Investment of school funds | 89 |
| Jefferson county, description and products | 107 |
| —assessed valuation | 108 |
| —homestead and state land in | 108 |
| Lakes and streams | 84 |
| Land districts | 19 |
| Lands for leasing | 26 |
| Lands, logged off | 27 |
| Land office fees | 23 |
| Laws, U. S. lands | 19-24 |
| Lead production | 61 |


Digitized by Google

| | Page |
|---|---|
| Lewis and Clark county, description and products | 108 |
| —assessed valuation | 109 |
| —homestead and state land in | 109 |
| Lincoln county, description and products | 109 |
| —assessed valuation | 110 |
| —homestead and state land in | 110 |
| Little Missouri project | 39 |
| Livestock | 41 |
| Lodge homes and institutions | 91 |
| Lower Yellowstone project | 33 |
| Lumber, mills, production, shipments, etc. | 69 |
| Madison county, description and products | 110 |
| —assessed valuation | 111 |
| —homestead and state land in | 111 |
| Meagher county, description and products | 111 |
| —assessed valuation | 112 |
| —homestead and state land in | 112 |
| Medals won by Montanans at expositions | 2 |
| Metal production by years | 62 |
| Milk River reclamation project | 32 |
| Mineral county, description and products | 112 |
| —assessed valuation | 112 |
| —homestead and state land in | 112 |
| Mineral wealth of state | 55 |
| Mines and mining | 55-62 |
| Missoula county, description and products | 112 |
| —assessed valuation | 113 |
| —homestead and state land in | 113 |
| Mules, number, value, shipments | 44 |
| Musselshell county, description and products | 113 |
| —assessed valuation | 113 |
| —homestead and state land in | 113 |
| National parks | 81 |
| Normal school | 90 |
| Oats, acreage, production and value | 28 |
| Oil and gas | 63 |
| Opportunities for investors | 5 |
| Orchards | 49 |
| Park county, description and products | 114 |
| —assessed valuation | 115 |
| —homestead and state land in | 115 |
| Peas, seed and for stock feed | 12 |
| Petroleum production | 63 |
| Phillips county, description and products | 115 |
| —assessed valuation | 116 |
| —homestead and state land in | 116 |
| Pioneer clergymen | 91 |
| Political conditions | 88 |
| Powell county, description and products | 116 |
| —assessed valuation | 117 |
| —homestead and state land in | 117 |
| Power | 65 |
| Potatoes, acreage, production and value | 30 |
| Poultry, breeds, co-operative marketing, etc. | 51 |
| Prairie county, description and products | 117 |
| —assessed valuation | 117 |
| —homestead and state land in | 117 |
| Progressive people | 85 |
| Prohibition | 89 |
| Protection to labor | 88 |
| Ravalli county, description and products | 117 |
| —assessed valuation | 118 |
| —homestead and state land in | 118 |
| Reclamation projects | 38 |
| —acres under ditch and cost | 38 |


Digitized by Google

| | Page |
|---|---|
| Richland county, description and products | 118 |
| —assessed valuation | 119 |
| —homestead and state land in | 119 |
| Rosebud county, description and products | 119 |
| —assessed valuation | 120 |
| —homestead and state land in | 120 |
| Sanders county, description and products | 120 |
| —assessed valuation | 121 |
| —homestead and state land in | 121 |
| Sapphires | 58 |
| Scenic wonders | 84 |
| Schools and colleges | 89 |
| School of Mines | 90 |
| Sheep, number, value, shipments | 46 |
| Sheridan county, description and products | 121 |
| —assessed valuation | 121 |
| —homestead and state land in | 121 |
| Silver production | 61 |
| Silver Bow county, description and products | 121 |
| —assessed valuation | 122 |
| —homestead and state land in | 122 |
| Smelters and smelting | 59 |
| State university | 90 |
| Stillwater county, description and products | 122 |
| —assessed valuation | 123 |
| —homestead and state land in | 123 |
| Sugar beet raising | 34 |
| Sun River project | 36 |
| Sweetgrass county, description and products | 123 |
| —assessed valuation | 124 |
| —homestead and state land in | 123 |
| Swine, number, value, statistics | 45 |
| Teton county, description and products | 124 |
| —assessed valuation | 124 |
| —homestead and state land in | 124 |
| Teton project | 39 |
| Timber, standing, varieties | 70 |
| Toole county, description and products | 124 |
| —assessed valuation | 125 |
| —homestead and state land in | 125 |
| United States, comparative yield of farms | 6 |
| Vacations | 81 |
| Valier project | 39 |
| Valley county, description and products | 125 |
| —assessed valuation | 126 |
| —homestead and state land in | 125 |
| Wealth of state | 16 |
| Weather, temperatures and precipitation | 71-74 |
| —map showing same at various altitudes | 73 |
| Wheat, acreage, production and value | 28 |
| Wheatland county, description and products | 126 |
| —assessed valuation | 127 |
| —homestead and state land in | 126 |
| Wibaux county, description and products | 127 |
| —assessed valuation | 127 |
| —homestead and state land in | 127 |
| Wool production | 46 |
| Yellowstone county, description and products | 127 |
| —assessed valuation | 128 |
| —homestead and state land in | 128 |
| Yellowstone National Park | 83 |
| Zinc Production | 61 |


Digitized by Google

Digitized by Google
NOV 23 1

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

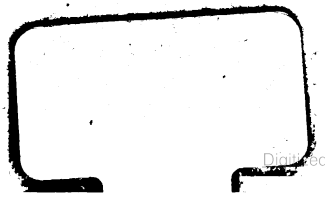
THE NEW YORK PUBLIC LIBRARY
REFERENCE DEPARTMENT

This book is under no circumstances to be taken from the Building

FEB 13 1919
OCT 10 1919

form 410

Digitized by Google



Digitized by Google

Digitized by Google